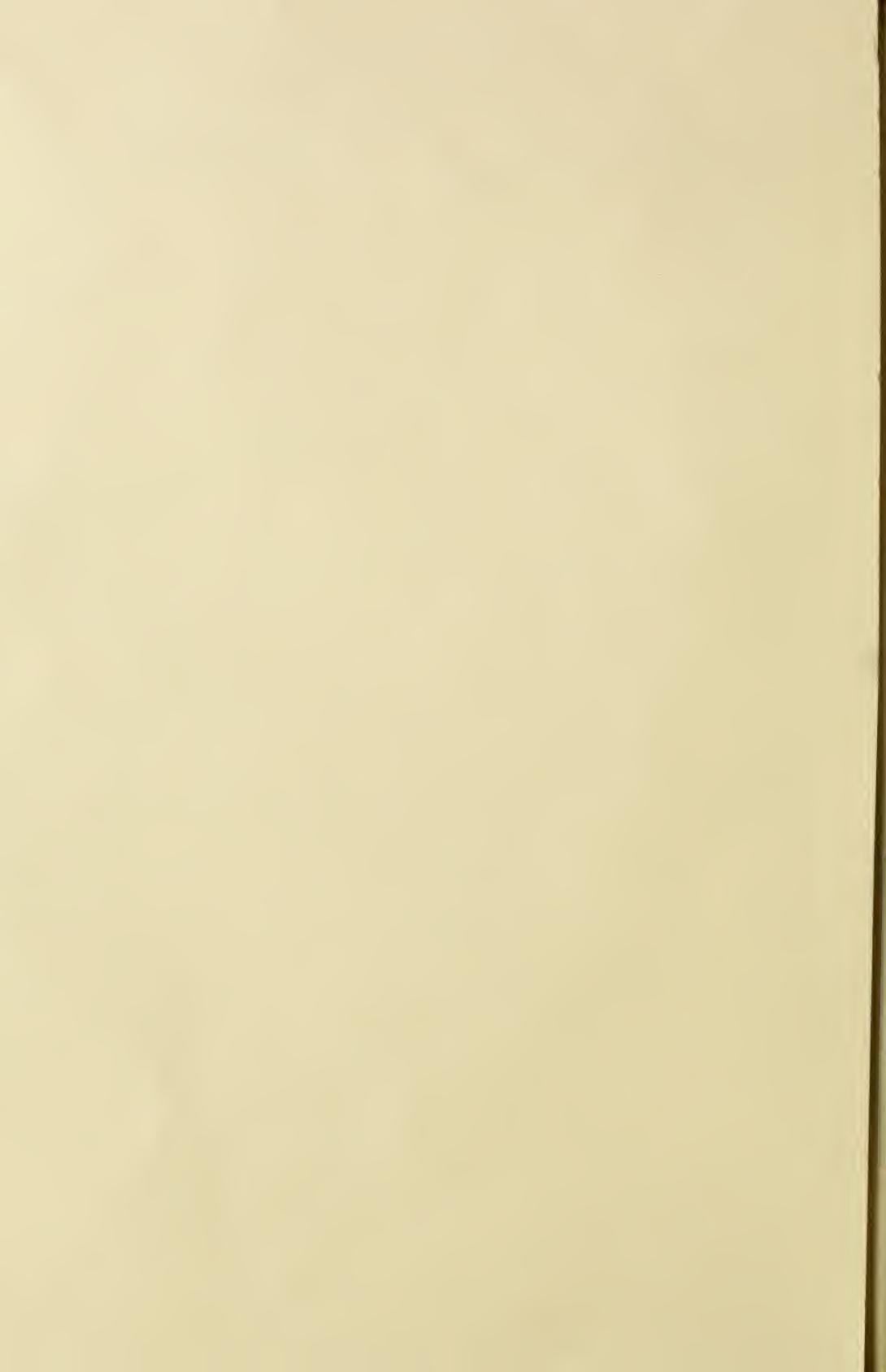


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THE
MARYLAND FARMER:

DEVOTED TO

Agriculture, Horticulture, and Rural Economy.

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A Greeting to the New Year 1881.

SPEED THE PLOUGH.

"Heaven speed the plough! and smile upon the crown
Of Ceres, bless the efforts of all men
Who labor heartfully on dale or down,
The plain luxuriant, or the mountain glen,
Evoking Nature's gifts, till e'en the fen
Teems with abundance, and the general land
Shines worthy of Earth's worthiest citizen,
Who bids the sickle triumph o'er the brand!
Heaven speed the Plough! Fair Nature's shuttle true,
The farmer is her weaver, and the field
Her web and woof! long ages but renew
Proof of her power, while rots the warrior's shield.
Barely hath shame flushed on a nation's brow
Whose honest prayer hath been, *God speed the plough!*"

A HAPPY NEW YEAR TO ALL! This sentiment we most heartily express, trusting that a benificent Providence may shower the great blessings of peace, health, content and prosperity upon all our friends and patrons during the ensuing year. The year that has just past was one fraught with many blessings to our beloved country and its prosperous people.

We have as a nation much to be thankful for in the past with the brightest hopes for the future. For ourselves, we are truly thankful for the success we have thus far achieved. Our efforts in the cause of agriculture have been not without the fruits that follow unremitting industry, and we reap therefore our chief reward in the kind assurances from a crowd of subscribers of their hearty approval of our labors and the promises of their continued support. But we shall not rest upon this alone, we shall go on to improve and enhance the value of the MARYLAND FARMER as fast as our

increasing facilities will enable us. It will be seen that we have already begun our 18th volume with a new type and we think brushed up our appearance considerably for the better, altho' the value of our wares "need no bush."

We return our thanks to our brothers of the press for their frequent unsolicited commendations of our Journal; to our patrons for their encouraging appreciation, and to our correspondents who have contributed with great ability to aid us in sustaining the high character of our agricultural monthly.

♦♦♦
Farm Work for January.

In the beginning of this, the first month, it should be the positive determination of every farmer and of every man who looks to the culture of the soil for his support or for the gratification of his pleasure or for both, to lay down plans for the general work to be done during the year. He should open a general account with the farm as if it was an individual—an account with the hirelings—a stock account, &c. He should commence a diary in which he could daily record the state of weather and anything worthy of note about planting or sowing crops, &c., and such comments as might be useful for hints in the future. This entire clerical work, would, if systematized and daily pursued, occupy but little time, and be highly important and interesting as time progressed. All implements and utensils ought to be over-hauled and

put in good condition, and the farm gears likewise. An inventory taken and a memorandum made of whatever would be necessary to be purchased, and the same procured always before it might be wanted.

As manure is the source of fine crops and the main spring by which the land can be improved, it would be well to begin at once the practice of making and saving all that is possible to be secured from the materials on the farm itself. Begin this month and form compost heaps, by gathering leaves, muck, if to be had conveniently, the briars, and the turf in the fence corners and along the fences by which the fences would be improved in appearance and their duration increased. All these articles drawn to some spot and composted with some coarse stable manure, plaster, salt and any mineral fertilizer that might be necessary to supply any particular deficiency in the soil or to furnish a particular plant food for the special crop to be grown. This heap should be occasionally moistened with the liquid from the barn-yard, soap-suds or with water alone, and kept packed close. It should be turned once or twice before it is used. In addition, see that the stock of all kinds are furnished with bedding and material for converting into manure by absorbing the fluids and the gases, using plaster freely in the stables and over the manure piles, and over the litter and straw of the barn-yard.

WINTER PLOWING.

In Maryland and north of the State, not much winter plowing is or can, often be done, but as we go South much of this work can be profitably done on stiff, clayey soils; we should advise light, sandy land not to be plowed until spring time.

WATER FURROWS.

Examine the wheat fields and see that the water-furrows are kept open, to enable them to carry off all surface water and drain superfluous moisture.

STOCK OF ALL KINDS.

Should have comfortable and warm lodg-

ings, plentiful supply of clean wholesome provender and pure water often, so as to prevent their drinking to excess at any one time, very cold water, and thereby producing a chill.

Sheep :—Ought to have good shelters to resort to as their comfort or inclination may dictate. Under these shelters should be spread frequently dry leaves or short straw so as to keep the bedding dry. They should be fed regularly if for the shambles, if kept as stock-sheep or breeders, their daily food should be two or three pounds of good hay, clover is best, to each sheep, alternated occasionally with oat straw.—Now and then give them a feed of turnips or other roots. Let them have access to salt, and sometimes to green pine or cedar brush, and have always pure water to drink when they are inclined. It is an error that sheep do not require water in winter.

Hogs :—Those that are store hogs, should have nourishing food to keep them growing, but not in such quantity as to make them over-fat. Let them have charcoal as much as they will eat; accustom to the use of salt. Keep them dry and as warm as possible. They should have plenty of daily exercise in a large field or wood lot, or if confined to a small yard, have a plentiful supply of rough material for them to work up into manure. To induce them to work up this material, scatter over it now and then some refuse grain, oats, corn or small grain.

POULTRY.

Poultry is no inconsiderable item in the profits of the farm, and adds greatly to the comfortable living of the farmers family, if it is properly attended to. Every farm should have a good supply of chickens, ducks, geese and turkeys. For the first, warm houses, kept clean and neat, are indispensable to success in the production of eggs, and in rearing chickens economically.

FIRE WOOD AND FENCES.

This month is a good time to cut fire-wood, and cord it in the woods after secu-

ring a good winter's supply near the dwelling. Remember that it is more economical to have wood cut a year ahead so as to become dry. One cord of dry wood is easier handled and hauled than half a cord of green. One cord of dry wood will give out more heat than two cords of green. It takes a great deal of caloric to drive out the water in green wood before it will burn at all, hence it requires labor and patience and a constant adding on to keep a fire going that is made from green wood. Few people think of this, and the loss of comfort they sustain by using green wood. Let us then have a supply of fire wood, cut this winter for the next.

TOBACCO.

Attend to stripping and conditioning the tobacco crop whenever the weather will permit. Be sure and assort it well, and put it in bulk to get into a smooth shape before hanging up to dry. This hanging up of the bundles is not necessary, if the tobacco is strictly attended to, moved and rebulked as soon as it begins to get warm in bulk. Many of the neatest planters never hang up the bundles, but watch it and condition it in bulks. It is not as likely to change color in bulk and have the shape and smoothness of the bundle disfigured as it is liable to when dried by being straddled on sticks after it is stripped and tied in bundles. The bundles should not be large, and should have neat, well-tied heads.

ICE.

Secure your ice at the earliest moment; have your pond and house ready so that on the first freeze you can get in your supply. Do not put it off to another freeze, for that other may not come again this winter, no matter what Vennor or the goose bone may predict.

ORCHARDS.

This is a good time to trim your orchards, and wash the trees with the tree-wash we have often suggested, composed of soft-soap, ashes, salt, and water enough to reduce it to the consistency of rather

thick white-wash; some add a little flour of sulphur, and some use liquid manure instead of pure water. This wash kills insects, destroys the eggs of insects, cleans off the moss and makes the rough bark smooth. It is applied with a common brush or mop made of sheep skin with the wool on, or made of woolen rags.

Garden Work for January.

There is nothing important to be done this month in the open garden; and yet, where work was neglected during the late fall months, there are some things that require attention. Pea-sticks and beanpoles for next year can now be got ready, straw matting for hot-beds can be woven, and sashes glazed or mended for hot-beds and cold-frames. The cold-frames and pits containing vegetables and flowers and plants, require attention daily. Small fruits can be trimmed and mulched with long manure or leaves. The garden walks can be cleaned or repaired, or new ones made. New beds laid off and old ones changed so as to have vegetables grown in other spots than those where the same were produced last year. No vegetable does as well when grown in the same ground year after year. Clean up the garden and clean off all debris.

Make a small compost heap ready for early use in the sowing or planting of vegetables in the spring; get in a goodly supply of well-rotted stable or cow manure on the different squares of the garden, and spread it with a dash of plaster and salt. Gather up and put in nice order all the garden utensils. Procure at once all such as you will likely want the coming season. Look over your seeds and see what other kinds you desire to try. Make a careful list of all seeds and plants you will want, so that you may know exactly when, and to what reliable seedsman or nurseryman you can write. To enable you to do so read the MARYLAND FARMER for last year, and

procure some catalogues from the nursery-men who advertise in our columns, and you will then be able to satisfactorily supply your wants at the proper time.

Potatoes :—It is beyond question a fact in potato culture, that if an early and productive crop is desired, the land should be highly manured and deeply plowed in the latter part of autumn or early in winter. If you have not done so, be sure, at the first moment this month, that the land is unfrozen and dry enough, spread over it a heavy dressing of well-rotted manure and plow it in deeply; then sow over it at the rate of 200 bushels of ashes per acre, and 4 bushels of salt, or the same of salt and 2 bushels of plaster, or if ashes and salt are used, the plaster may be omitted until the potatoes come up. If the land is stiff, each furrow should be subsoiled, and the ground left in the rough state until March, when the ground can be cross-plowed after being harrowed, and a dressing of some fertilizer owed and harrowed in, after which, the weather permitting, the potatoes can be planted two inches deep and two furrows thrown over them in a ridge form. As soon as they begin to peep out, these ridges are dragged down with a harrow, and the potatoes have a light, loose level soil to grow in. The harrowing is repeated as often as weeds make an appearance, until the vines get to be 6 inches high, then a cultivator is used between the rows and the hoe, if necessary between the plants in the row, until they begin to blossom, or have got a good growth when they are to be plowed in a way to give them a hillling; that is, with the mouldboard next to the rows, being careful to leave the hill thus formed, not sharp, but as level as it can be by thus hillling with the plow. After the first harrowing give the rows of potatoes a heavy dressing of ashes and plaster, mixed in equal parts.

Now is the time to subscribe for the MARYLAND FARMER.

OUR LONDON LETTERS.

INTERESTING TO FARMERS—EUROPEAN AGRICULTURAL NEWS ITEMS.

(From our Regular Correspondent.)

LONDON, England, Oct. 30, 1880.

Mr. Bright in one of his speeches caused considerable hilarity among his audience by referring to “a bill to cure the earthquake.” The farmers of Northumberland and Durham are, however, putting the fanciful suggestions of the orator into something like practical shape by forming themselves into a protection and defense association, having among its praiseworthy objects, that of obtaining compensation for damage to crops caused by noxious vapors. The society was inaugurated by a public dinner at Newcastle on Saturday, and starts its career under favorable auspices. At the first blush it might seem difficult to obtain compensation for damage wrought by the air, “that chartered libertine;” but when we consider the injury done to agriculture by the miasmatic effluvia arising from some sorts of manufactures, the farmers of Durham and Northumberland may in this matter display no more than their ordinary acuteness. Of course their theory of damage cuts both ways, and if they can compel the manufacturers not to poison the air with the exhalations arising from industrial labor, the manufacturers may, by a parity of reasoning, also remind them, through the courts of law, that certain parts of agricultural dressings for the land cannot appositely be compared to “the perfumes of Araby the blest.”

Nothing can be more satisfactory than the steady increase, despite privy council restrictions, in the import of cattle, living and dead, from the United States to England. The former, singularly enough, seem to grow faster than the shipments of dressed meat, which indicates that, notwithstanding

standing all improvements and safeguards, meat cannot always be brought over fresh. On the other hand, live cattle, the import of which only began in 1875 with a few hundred, have gone on increasing until last year over thirty-three thousand beasts were received—less than half the number dressed carcasses—while in the first eight months of this year the number had risen to close on seventy thousand live cattle and sixty thousand dressed carcasses. Thus the living beasts are found most advantageous to ship, although they are slaughtered immediately on landing—a result which does not at all bear out the complaints of those who want a free import, with leave to send the cattle inland for fattening or any other purpose. Whatever other effect they have the privy council regulations certainly have not prevented the expansion of the traffic in beasts.

Large numbers of cattle from the States, I am told, shipped by way of Montreal for the North of England, are sent thence to the southern districts as Scotch cattle, bringing the highest price. The same beasts shipped from an American port direct to England would be slaughtered on landing. If the fact be really so, the privy council restrictions should either be extended to Montreal or relaxed as concerns the ports of the States, otherwise all our care is in vain, and the only result is that the home consumer merely pays more than he otherwise would for cattle coming by an indirect route.

LONDON, England, Nov. 30, 1880.

The past week has been characterized by storms, floods, frosts and unsettled weather over the whole United Kingdom, and the delay thereby occasioned to wheat-sowing begins to assume a serious aspect in Essex, Sussex, and some other districts in which seeding is backward; but the bulk of the sowings, both in Great Britain and in France, has been done in good season, and under favorable circumstances.—

Thrashing continues to show that the wheat crop of 1880 is very deficient, barley bulky in yield, but very much damaged, and oats good both in respect to quality and quantity. The supply of home-grown wheat to the London market for the week has been 4,433 qrs., all of English growth; samples have been very much out of condition, and the inquiry for marketable grain has therefore been stronger, without quotable advance in rates, whilst damp and otherwise inferior samples met a labored sale at quite *nominal values*. In the majority of provincial markets prices have shown a hardening tendency throughout the week, and in many instances values have improved 1s. per qr., but this may be attributed to scarcity of good-conditioned samples. English flour continues to increase in supply to the London markets, 24,984 sacks having come to hand during the week; but, the foreign supply being on a moderate scale, the total offerings in factors' hands are no more than equal to the consumptive demand, which continues steady, whilst the best makes are held firmly for improved rates, which prove a great check to business.

The quantity of breadstuffs on passage is less this week than last, and there is no immediate prospect of an excessive supply. This has strengthened the floating cargo trade, while factors have been unable to effect any quotable advance in prices for grain off stands. A great effort is being made to keep up prices, and a large proportion of the arrivals off coast have been sold privately. Millers, however, will not respond, and the consumptive demand goes on from day to day, and from week to week, without the slightest indication to any inclination to provide for the morrow. The imports of foreign flour have been comparatively small from the United States, Austria, and New Zealand having furnished nearly one half of the London imports, whilst the total imports into the United Kingdom have shown a considerable in-

crease over those of the preceding week.

In France the tendency of prices for wheat and flour has been upward during the week. At the Paris market on Wednesday business was restricted on account of the higher rates asked by holders, but the market closed firm at an advance of twenty-five centimes for wheat and an advance of 1*f.* on consumption market flour.

In Germany, wheat has continued to meet a fairly good demand, and barley has been rather more inquired after. Rye remains firm in value, and oats have maintained their position with hardening rates.

In Holland, wheat has improved in value, whilst rye has been in favor of buyers.

In Belgium prices for wheat have tendered downward, losing twenty-five centimes on the week; no change is reported in quotations for rye and spring corn.

The latest telegrams from St. Petersburg advise wheat as being steady, oats 10 capecks dearer, rye 40 capecks cheaper, and linseed 25 capecks in favor of buyers.

In Egypt wheat and beans are reported dull and quiet.

For the Maryland Farmer

Farm Work in Winter.

There are very many individuals who know little or nothing of the routine of farm labor, who look upon the farmer in winter as a person of great leisure. They reason, that the principal labor of the farmer is to grow crops, and attend to their proper harvesting, which, being done, they rest in ease in the consumption of what they have toiled to secure. But this is not so; it is labor, labor, most of the time. It must not be forgotten that there is much more to farming than simply the production of crops. Being a farmer implies that there is stock of various kinds upon the farm, or else the business of that farm becomes a conundrum. Stock is required not only to perform the labor of the farm, but to aid in marketing products, to furnish meats for the table, etc., besides add-

ing to the fertilizing material required. Now while it must be born in mind that in the summer time comparatively little time is required for the care of stock, because they can forage for themselves, it must be remembered that in winter they become dependent upon the farmer to furnish them means of subsistence; this has been procured it is true in the summer, but distribution of the same requires no inconsiderable amount of time and that when the days are shortest. Justice to dumb animals, especially in cold weather, requires that they be stabled at night, fed night and morning, with a liberal baiting at noon, being furnished with abundance of water. The fact that animals should be stabled creates the necessity of attending to stables to see that the droppings are removed and suitable bedding provided. With anything from fifteen to fifty animals to care for in this manner, any one can judge whether any labor is required; this, however, refers to horses, cattle and sheep, and does not include swine which are to be fattened requiring corn to be shelled and carried to mill for grinding unless the farm is provided with power which is not always the case; it is no small matter to properly care for swine, and then, too, no farmer should be without poultry the care of which in winter is increased twofold. So much for the animal creation. Then again there is fuel to be provided especially for those families who burn wood and where three or four fires are continually kept up in winter, as is the case in the New England States more particularly, it is no small matter to provide an amount sufficient to last for the year, for the reason that as above stated, much time being required in the care of stock, the working hours of the day become very much reduced, and as is often the case the wood lot is a considerable distance away requiring time to go and come in chopping as well as in hauling. There, then, is another source of severe labor, which more properly belongs to winter than to any

other season of the year. Then, again, among the more skillful farmers there are more or less little jobs of repairs upon farm implements and machinery that come in to require time and attention in repairs. And right here it is proper to state that every well regulated farm should have its workshop so that all simple repairs can be made at home at a good saving of time and cost, especially if the farmer has any mechanical skill whatever.

It is not to be recommended that a workshop be provided for those who, as has sometimes been expressed, have not ingenuity enough to make a milking stool that will stand alone, because it would be little accommodation. Then presuming that all this is accomplished in a proper manner and no great amount of time will be left for idling.

It must be remembered, too, that in addition to actual physical labor, to the true farmer there is a considerable amount of mental labor required in forming plans for the coming season. To the want of that may be attributed many failures that have occurred in farm management. Simple as it appears to the uninitiated, there is in the proper management of a good sized farm a degree of mental ability required that is not below that of any other business, because the farmer has to anticipate and provide for more variable conditions than any known business, and from such provision he cannot turn aside. No, farmers are not idle in winter; many, very many, in order to procure more ready money, spend their spare time or otherwise unoccupied hours in transporting wood or timber to market, or at labor in the same service for others. So it is, that while farming is looked upon as a sort of summer drudgery and winter season of content, it is a period of care and anxiety from one year's end to another, and with no encouraging prospect of any market change. But with all this the contented farmer finds enjoyment; very much in life depends upon that little word *contented*. The contented mind is happy.

Columbia, Conn. WM. H. YEOMANS.

CORN.

We find in the *New England Farmer* a well written report of the proceedings of the Massachusetts State Board of Agriculture at Southboro', Mass., in connection with the Southboro', Farmers' Club, held on the 30th of November and the 1st and 2d of December, 1880. From it we select the interesting statement about corn, its culture, &c., and the report of Dr. Sturtevant's lecture.

"If there is any one *leading* subject taking the attention of this gathering it is corn. The hall is surrounded with it; it hangs in traces from the chandeliers, ornaments the speaker's stand, loads the tables, and is bursting out and tumbling to the floor in all directions.

"Corn growers are in the majority, and the lecture of the afternoon by Dr. E. L. Sturtevant, on the growing of corn, was received with much favor. He first alluded to the antiquity of corn in America, it having been found by Columbus and other explorers from Canada to Brazil, the earliest records noticing it in Central America. Sweet corn was probably produced from Dent corn in the Susquehanna Valley. The average crops in different States range from less than 10 bushels to more than 30 bushels per acre, yet good farming produces maximum crops of about equal measure in each of the States. Increased products come through the intelligence of the producer. Good seed is one of the first considerations, yet good seed is rare and difficult to procure. Blount's Prolific he believes the best known variety where the climate is adapted to its growth, but it is too late for New England farmers. He had seen nine first-class ears on one stalk of this variety. Good seed had, in experimental plots, produced without manure better crops than poorer seed with manure.

"Vegetable seed should be bred as we breed animals, for a special purpose. It may be done with greater prospect of suc-

cess, as the work is more under our control. A cross of distinct breeds in seeds, as in animals, brings increased vigor, but it must be a first cross; grades are unreliable here as in animal breeding. Farmers should raise thoroughbred seed for crossing.

"The corn plant likes warmth, but it takes no plant food from the soil till the material in the kernel planted is all exhausted. A temperature from 80° to 90° is most favorable to the growth of corn. Other things being equal corn grows fastest in New England when the weather is warmest. To secure warmth the roots keep near the surface in the upper layer of soil, and for this reason he would not plow very deep, or bury manure under deep furrows. Four to five inches is deep enough for any but subsoil plows that stir the soil without inverting it. The disc harrows are sometimes sufficient for working the soil and mixing the fertilizers without plowing.

"The best manure for a corn crop is that which contains the most plant food in the best condition for the use of the plants. Early in the season corn seems to require ammoniacal manures, while later, nitrates are needed. Barn manure in decomposing furnishes these substances at the right time. Plants take little fertility from the soil after they come in flower.

"Fertilizers can be distributed more evenly through the soil than can coarse raw manure. Manure applied in winter and evenly spread will be better distributed through the soil than if applied directly before planting. The object of harrowing is simply to make a suitable seed bed for the plants. The disc harrow should not be run full depth while working in fertilizers.

"Western methods of growing corn must replace in New England the old Yankee, or more properly, Indian method of hand labor, or we cannot compete successfully.

"We must use more machine labor, plant an acre an hour, and do the work better

than by hand. A twenty-acre field will pay for the machinery the first year in the saving of expense. The thicker the stalks stand, within reason, the more corn there will be to the acre. His own fields this year, had the rows 3½ feet apart, and the hills 2 feet, with 4 kernels in a hill. This gives 25,000 plants to the acre.* Drills will give more corn per acre than hills can. All the cultivation should be done by horse power. Fighting what few weeds the horse cultivator leaves does not pay. It is like pitching into a larger boy with the chances of getting "licked" instead of "licking." Perfect extermination is impracticable. The chief aim in cultivation is to influence the soil and the corn. Stirring land dries it, and shallow cultivation makes the top inch dry, and that then serves as a mulch, and prevents the moisture from below from leaving the soil.—Professor Stockbridge's experiments at the college had shown this, and observation and practice re-affirm it.

"Deep cultivation if frequent, wastes the moisture in the soil, but it may be necessary to cultivate deeply for other purposes. When the corn under the influence of good weather grows too fast, it is better to check that growth by deep cultivation, such as will cut off the growing roots. This check will last but a single day, new roots being made in multiplied numbers. Checking must be governed by the conditions of the crop. If very rank, check often, but stop as soon as the plant shows the flower. The plant needs to be reminded that its business is to produce grain, not stalk. Farming is a series of compromises. We must steer between extremes. The corn fodder is strangely unappreciated by many farmers. If cut early, as soon as the corn is glazed, and housed early, before the goodness is washed out of it, it is worth in his section, six-tenths as much as ordinary hay, but washing injures it very seriously. If well managed, the fodder will be worth all the fertilizer costs for growing the crop,

leaving the grain to set against labor and land. He does not believe it pays to chop the fodder before feeding, when cattle will eat nine-tenth of it without chopping, which is his own experience with well-cured fodder. Smut is sometimes a serious drawback in corn growing, and too little is known of its habits. He uses the Thomas smoothing harrow for the first weeding when the corn is just out of the ground.

"The discussion which followed was very animated, and was participated in by Dr. Wakefield, Ex-Gov. Boutwell, Mr. Bowditch, the chairman, and others.

"Mr. Boutwell claimed that it is better to keep the weeds out of corn fields. We, of this generation, are bound to transmit the land to our successors in a reasonably clean condition, for we are not the sole owners of the soil we cultivate, but hold it for use alone. We should therefore so use it as not to disgrace ourselves, nor entail too great burdens upon those who follow us.

"Corn is a good crop in New England on good corn land. His own experiments on a large scale had been very satisfactory when conducted on warm loamy land with fertilizer and horse cultivation chiefly. He valued the fodder equal to one-half the price of good hay, yet he could sell a ton of hay for every ton of corn fodder consumed. He cuts his fodder, and after saturating in hot water and adding a little meal, lets it stand twelve hours before feeding. The equivalent of 40 cows consume one-third ton of fodder per day, with 100 pounds of cob-meal. His cows do no better when fed on the best of hay. His five best cows had given 78,000 pounds of milk in a year."

*[This thick planting may answer for the low growing soils in New England, but will not do in the South or with Southern tall growing corn. It has been found by experience that in the States south of Pennsylvania, the greatest product has been from corn planted not nearer than 4

by 3 feet and two stalks in the hill, or drilled 3 feet between the drills and thinned to stand in the drill, single stalks 18 inches apart. In one case, it was left 24 inches apart occasionally, with two stalks close together, and the rows 4 feet apart. It has been well ascertained that if corn in this climate has proper room to receive air and sun, there will be but few or none but what are fertile plants, and if planted too thick, there will be much fodder and but little grain, because there will be a large number of unfertile stalks.—EDS. MD. FARMER.]

ENSILAGE.

BY JOHN R. PAGE, PROFESSOR OF AGRICULTURE, BOTANY AND ZOOLOGY IN THE UNIVERSITY OF VIRGINIA.

The preservation of green forage by "*Ensilage*," with unessential modifications, has long been in use in France and Germany, where it consisted in covering green fodder with a layer of straw and earth either in pits below or in mounds above the surface of the ground. In this covered mass fermentation takes place, and according to M. Grandjeau, in charge of one the French Experimental Stations, the following chemical changes occur :

"1. The sugar already formed in the plant ferments, and produces alcohol and a certain amount of acids.

"2. The starch and lignin (woody fibre) are partially transformed into sugar under the influence of the acids formed; the amount of such changes depending upon the length of time the fodder remains covered.

"3. The nitrogenous (flesh forming) and fatty materials (fat forming) become condensed on account of the destruction of non-nitrogenous matters. In this way the relative amount of nutritive nitrogenous substances is 'increased.' This process of curing can be applied to corn fodder, tur-

nip-tops, cabbage leaves, and even to frozen or diseased roots."

Another Frenchman, M. Goffart, who has experimented largely with "ensilage," and has published a work on the subject which has been translated in this country, says that he cures all his hay and green fodder by fermentation, and that the advantages of so doing are these:

"1. The fodder, no matter when gathered or in what condition, can be successfully preserved. Frozen corn fodder can be kept in good condition by such treatment.

"2. The fermented fodder was proved to be more tender than that treated in the usual way.

"3. It increases the relative amount of assimilated nitrogenous materials. Direct experiments in feeding corroborated the truth of this statement.

"4. M. Goffart finds himself able to keep more stock and to fatten them more quickly than when using the old method of curing fodder."

Still another Frenchman, M. Leconteux, has written much upon the subject, especially in reference to the application of the process to *corn fodder*. His reasons for the growing of corn fodder to be treated in this way as follows:

"1. Corn fodder gives a larger yield per acre than any other crop.

"2. This yield permits the keeping of more cattle by enabling a larger territory to be devoted to grazing.

"3. Corn is less exacting upon the mineral elements of the soil than other plants that produce less.

"4. Corn gives a quick return for capital expended, being a powerful grower and producing vegetable matter rapidly."

His reasons for *Ensilage* are:

"1. That green fodder has heretofore been in use only two or three months in the year. By this process it can be had at any time.

"2. The corn undergoes a change that renders it a more *rational* fodder."

See Annual Record of Science and Industry, 1878, pp. 566-67.

In a recent work entitled "A Manual of Cattle Feeding, by Henry P. Armsby, Ph. D., Chemist to the Connecticut Agricultural Experiment Station," we find the following remarks in regard to "Ensilage":

"Within a short time the process of 'Ensilage' has been recommended to *our* farmers as a most advantageous method of preserving maize fodder in particular, and a few practical trials of it have given favorable results. While some extravagant claims have been made for it, doubtless possesses certain advantages over field curing as well as certain disadvantages peculiar to itself. The process consists essentially in storing the finely-cut green fodder in suitable receptacles, in which it is closely packed, and which are so arranged as to exclude the 'air as completely as possible.' With unessential modifications the process has long been in use in Germany, the product being known as "*Sour Maize*" or "*Sour Hay*," while if the fodder be partly dried before being stored it yields '*Brown Hay*.'

"Advantages of Ensilage."—The chief advantages of the process as a method of preserving fodder are, that it is independent of the weather; that the fodder is handled when green, and that therefore no loss of the more tender and nutritious parts need be feared; that the resulting fodder is soft and easily masticated, and that the fermentation which takes place in it renders it perhaps more palatable to the animals. These are not unimportant advantages, and in many cases may be sufficient to cause the adoption of the method. On the other hand, "Ensilage" of itself adds nothing to the value of the fodder submitted to it, but rather diminishes it."

"The Chemical Changes in Ensilage."—In the Silo, a sort of fermentation is carried on, at the expense of the extractive matters of the fodder, resulting in the formation of various organic acids and vola-

tile bodies, and naturally diminishing the quantity of the nitrogen-free extract, (what remains of the dry matter of the fodder after deducting the crude protein, crude fibre, crude ash and fat,) and thereby increasing the percentage of all the other ingredients.

This has been illustrated by the analysis of fresh corn and ensilage corn by Grandreau. The two contained respectively 86.20 per cent. and 81.28 per cent. of Water. The dry matter had the following composition:

1. *Fresh Per Cent.*—Protein, 6.62; fat, 1.30; nitrogen-free extract, 58.71; crude fibre, 26.50; ash, 6.88. Total, 100.00.

2. *Ensilage Per Cent.*—Protein, 6.62; fat, 1.92; nitrogen-free extract, 53.21; crude fibre, 26.23; ash, 12.02. Total, 100.00.

"The investigations of Weiske on the Ensilage of Esparssette on "Sainloin," in which the total amount of loss by fermentation was determined, show the nature of the alterations which the fodder undergoes still more clearly." "As before the fermented fodder is poorer in nitrogen-free extract and richer in other ingredients than the original materials. The loss of dry matter during fermentation was in the case of the sour hay 24.00 per cent. These experiments show that the preparation of sour hay or 'Ensilage,' involves a much greater loss of substance than is ordinarily to be feared in drying in the field. It is possible that the losses would be smaller with maize fodder, than with a highly nitrogenous fodder, like clover, esparssette or lucerne but they are doubtless considerable. The apparent increase in the fat during fermentation appears to be due to the formation of lactic acid, and other substances soluble in ether.

A certain advantage may perhaps be gained by 'Ensilage' in so far as the resulting fodder contains a large proportion of protein; [flesh former], and therefore does not require so large an addition of bye

fodder [containing protein as grain]. Corn being a comparatively cheap crop, the losses of material during the fermentation might be compensated by the improved quality of the residue. It does not appear from M. Grandreau's analyses, however, that there is any very marked difference in this respect between fresh maize and Ensilage. If this is generally the case, then fermented corn fodder has all the advantages of the fresh fodder, and no others, except perhaps as regards palatability, and *Ensilage is to be looked upon simply as a method of preserving corn fodder, and the question of its adoption is a purely "economic one."*

"*Effect on Digestibility.*"—No comparative experiments on the digestibility of Ensilage have been made; but a few experiments in which small amounts of fodder were fermented, showed, rather a decrease than an increase of digestibility of both the "brown" and sour hay was found to be quite low. He also found that the "brown hay, [partially cured] of lucerne, had about the same digestibility as that dried in the field. It is not, therefore, to be anticipated that Ensilage will be found to materially affect the digestibility of fodder."

"*Quality of the Fodder.*"—The value of the fodder prepared by Ensilage must evidently depend on the quality of the original material. The loss of non-nitrogenous matters which it suffers narrows ^{bc} nutritive ratio somewhat; and renders it more valuable, pound for pound, than the green fodder. With this exception, the remarks already made concerning the quality and value of maize, as well as of other fodders are applicable here, "to wit: that by maize-fodder we mean corn that is grown exclusively for the sake of its stalks and leaves, cut comparatively early; and is either bred for soiling, or cured for winter fodder—that by the term 'stover' we designate the stalks and leaves of ripe corn from which the ears have been removed. The two are the same plant in different periods of growth;

and it is evident, from what we know of the composition of the same plant in different stages of development, that corn fodder must vary greatly in composition according to the time it is cut; blade *stover* will be found very much poorer in protein, and richer in crude fibre, and carbohydrates generally. Green corn is a very watery fodder containing from 80 to over 90 per cent. of water; but when cut early its dry matter is quite rich in protein. It is too watery for exclusive use, although very profitable and well suited for milk cows. It is therefore important to recollect that the composition of Ensilage and its nutritive effect, must of necessity be just as variable as those of the fodder from which it is prepared. The few analyses of Ensilage which we possess show that, like corn fodder it is rich in non-nitrogenous nutriment, and poor in protein, requiring the addition of a "bye fodder" rich in protein in order to produce the best results. In conclusion it may be added that, in some cases, injurious effects have been observed to result from too great acidity of the fermented fodder, a fault easily remedied by the addition of a little pulverized chalk."—See Armsby's Manual of Cattle Feeding, pp. 316-321.

Having been asked a number of questions in regard to the process of "Ensilage," and its effect upon the material used, I think the matter contained in the foregoing pages will be acceptable to many of your readers. If you agree with me you may publish it.—*Jeffersonian Republican.*

KILLING THE PEACH TREE BORER.—A cotemporary recommends the following: "One pint of crude carbolic acid, costing twenty-five cents, is sufficient for twenty gallons of soft soap, with as much hot water to thin it; then stir in the pint of carbolic acid and let it stand over night or longer as the case may be to combine. Now add ten gallons of rain water and stir well, then apply to the base of the tree with a short broom or old paint brush, taking pains to wet the inside of all crevices. This will prevent both peach and apple borers."

HORTICULTURAL.

For the Maryland Farmer.

Horticulture in Maryland up to 1880.

BY JOHN FEAST.

I shall now proceed to give a brief sketch of the private places devoted to horticulture in the State of Maryland, especially in and around Baltimore and its vicinity.

HAMPTON.

Hampton, near Towsontown, in Baltimore County, is the well known estate of the late Gen. Ridgeley, but now in the possession of Mrs. Charles Ridgeley, the widow of the grandson of the General. The mansion stands on an elevation which commands a fine view. From the front door is a broad walk flanked by terraces that compose the flower garden, leading down to a level grass lawn planted with evergreens, flowering shrubs, and shade trees, giving a fine effect. To the east is a hedge of arbor-vitae well trimmed, with the centre terraces occupied by flower-beds of various designs and filled with choice flowers in summer. To the North are the garden-houses and the grapery, the latter producing annually fair crops. The collection of plants are chiefly for blooming, having but few that are rare or new, yet the whole are numerous and present a healthy appearance. One house is devoted to roses and violets, with frames that in the proper season are filled with early vegetables. On the grounds are found some handsome specimens of trees—the Purple Beech half a century old, Cedar of Lebanon, with other fine trees rarely found so old in this country of their class. There is a house near the mansion appropriated to lemons and oranges, in which good crops of fruit are grown. The trees are old good bearers, and are of the best varieties. On the north front are seen fine hydrangeas bearing very large trusses of flowers. The trees and evergreens have been too thickly

planted and could be improved by thinning out, as they are destroying one another. This is a fault common to the unskillful in tree planting, leaving a space of four feet where a diameter of thirty feet is required for the full development of the beauty of many trees. All the places around Baltimore show this great fault in tree planting, except one that I will mention hereafter. To plant clumps and to have specimen trees is altogether different. Room to grow, as nature intended, is necessary, and this is seen here on the lawn. The grounds are kept in good order by Mr. Massey, who has them at present under his charge.

The residence of Mrs. Lurman, near Catonsville, is noted for the grounds about it, being planted with more taste and judgment than is seen in many other places. The grounds are not large, but under her own direction with the help of her unassuming gardener, Mr. Fauth, the trees are arranged with plenty of room to grow and fine specimens. Here we find *Torrya tasi-folia* ten feet high, *Taxus Japonica*, *Retinasporas*, *Chryptomerianna*, *Thuyas* of varieties, and all the finer evergreens—all perfect specimens. There are large clumps of Rhododendrons and Hollies so planted as to present to the eye a most enchanting spot. The grounds are kept in fine order. The leading kinds of grapes in the grapery yield large crops. The two green-houses are filled chiefly with good plants of old varieties. The space for the flower-garden is small but tastefully laid off in beds which show well in the proper season. This garden is some distance from the dwelling and is reached by a circular walk. The vegetables are mostly grown on the farm. When this property was owned by Mr. Somerville there were on it extensive peach orchards. Mr. Somerville was a lover of horticulture, but not more so than the present owner, Mrs. Lurman, whose pleasure through life has been in devoting much time to the culture of fruits and flowers and indulging a taste for new and rare

plants.

Mrs. George Brown has a suburban seat north of the city, where is to be seen very large evergreens, but which are spoiled in beauty by the common fault of being too crowded, and not having room to spread themselves. Around the dwelling are different kinds of shrubs and trees, borders of flowers, and at some distance off are two houses for plants, which contain some fine old specimens of Palms, India-rubber trees, white Azaleas, Stalitzias and a general collection, including Camelias, also bedding plants in large quantity for flowering in the open borders, and in the figures cut in the grass plots. Three house are devoted to grapes which have been planted many years and produce large crops of fine grapes, but in consequence of so many changes of those in charge, have been neglected in the protection required, and a large portion of the stems have split up some distance causing a weaker growth, yet a fair show of fruit and some very fine bunches are observed. They are now in charge of one who can grow grapes as he did for the late Thomas Winans for many years at his town house. Mrs. Brown may feel confident that her vines will be restored and the whole place kept in order under the superintendence of Mr. Charles Campbell, who is a successful cultivator and gardener.

The adjoining farm belongs to Mrs. Jno. S. Gittings. This is a large estate of many hundred acres. There are two green-houses for plants comprising a general collection. One large house for grapes which yield a fair crop, but the borders need fresh material before a full crop can be expected. The vines must have something to feed on or there will be no success. Cutting down the vines and renewing the borders is the only method to insure full crops of fine fruit. There are a large number of frames worked at the proper season in lettuce, cauliflowers, &c., requiring much labor, which is not at hand at all times, rendering

it impossible for Mr. Wm. Baggs, the manager, however industrious he may be, to keep in proper order so very extensive grounds.

Near Mrs. Gitting's, is a nice tract of land owned by Mr. Phillips, and has upon it a snug country house surrounded by forest trees and shrubbery. On this place is a grapery, which, under glass bears well and has produced some very fine bunches. Also a range of houses divided into three parts, one for roses and the others for plants of general sort, with some good and scarce camelias. The whole is rented to Mr. Thos. Sutton, who cultivates flowers for sale and supplies his store on Madison Street with plants and cut flowers. On this farm apples, grapes, &c., are grown with raspberries and vegetables to serve to some extent. Growing for profit is different from growing for pleasure; in the latter case everything is expected to be kept in nice order.

Mr. Saml. M. Shoemaker, in Green Spring Valley, has erected a splendid mansion everything to correspond. Having a taste for horticulture and the means to indulge that taste, he has constructed, regardless of expense, houses for plants and for grapes, which are now in full bearing, and pay him well for his outlay. His collection of plants is very good and many new and rare ones are there to be seen. This collection he enriched by his purchases, while lately in Europe, of several novelties. The grounds are laid off with much taste and kept in prime order. The exhibit of a variety of plants at the horticultural exhibition 1879, proved the ability and skill of his gardener.

Mr. R. W. L. Raisin, has a small farm, four miles from town, west of Loudon Park Cemetery. A few acres around the dwelling are planted with trees and shrubs, with flower-beds filled with specimen plants, scattered over the lawn, so as to produce a pleasing effect. There is a small grapery producing fine fruit and two or three houses or plants, of which he has a good selection,

and they are grown well. He has some fine Ferns, Crotons of large size. Mr. Raisin always makes a good display at the horticultural exhibitions. As the collection increases more space will be required. His known taste for horticulture will induce him to build more room to give his gardener, Mr. Smith, a chance to develop his skill in the culture of plants more fully, yet thus far, he ranks with many others in the general line. His zeal and energy indicate he could do even better if had the chance of a wider sphere.

Mr. Wm. H. Perot has his country seat about five miles out of town, on Charles Street extended. The grounds are enclosed with a nicely trimmed Osage Orange hedge. Within the enclosure are the finest lawns in this or any other country, having myself seen the best in five provinces of Europe, none of which were superior, if equal to the beautiful ones of Mr. P. These lawns are studded with splendid evergreens and flowering shrubs. On the north side of a valley, south of his mansion, he has had erected, by Lord of New York, a range of houses for plants. These are fine structures, and in them plants do well. The collections are good and valuable with many rare plants. In front is an excellent contrast made by a walk leading down by the side of the stream, which has several dams and a steep hill rising south, crowned with natural forest trees, shading the whole and affording a fit place for rhododendrons that are thickly planted, and when in flower make a beautiful show. Farther down the ravine is a grapery not yet in full bearing, and nearby are three or four houses for plants of smaller size; one for orchids, of which he has a good collection with Ferns, Gloxinias of the most superb sorts which he received direct from Demerara and other places abroad, and also native orchids growing on limbs of trees that have been cut off. The foliage plants are numerous, and as a collection may be classed as among the best. Everything is kept in a high state of cultivation, showing the deep interest and the skill of the gardener, Frederick Reinecker, whose chief recompense is in the gratification of his pride in the beauty of the grounds and the effect of the flower arrangements on the front and chief lawn, where the best bedding plants are used to the best effect of the modern style of landscape gardening.

[TO BE CONTINUED.]

For the Maryland Farmer.

The Culture of Hops in Maryland.

I have for many years thought that the area of ground we have in cultivation and the manner of cultivation, in some respects, might be made more profitable with less labor. There are soils in the different parts of the State, adapted to the growing of almost all kinds of agricultural products. Then, why not try to raise such other things as might be better as a money producing crop than corn or other grain. For instance, hops, which require but little labor after once a planting is established. The hop-vine requires only tolerable good ground, deeply cultivated and improved afterwards by manure. The land should be thoroughly prepared and brought into fine tilth before the plants are set. Then lay it off as for corn, 3 feet each way. At each check, set a plant 6 inches deep. When the plants have made a growth of about one foot or eighteen inches, set firmly a pole, either cedar, oak, ash or pine, and tie the plant to it. As the plants grow, keep them tied until they take firm hold of the pole. They require working like corn to keep down weeds. Heavy storms may blow down the poles, and attention is required to reset or straighten them up. The poles should be sharpened at one end and dipped in gas-tar or other mixture to make them last for several seasons. The time for picking the hops is in September. The best kinds to plant are the Golden or the Grape varieties, as they are more profuse in bearing and require taller poles, say from 14 to 16 feet long. At the time of picking the vines are cut off about 18 inches above ground and the poles are pulled up and laid convenient for the pickers to get off the hops, which are placed in bags or large pockets convenient for carrying to the drying kiln. A good picker will gather 20 bushels a day if the season had been favorable. After the crop is picked, the poles are cleared of the vines and laid away under

cover for another year. The haulm is cut up and when rotted used as manure.

Kilns are prepared for curing hops.—These kilns are 15 or 18 feet square and 18 feet high with a roof of conical shape, coming to a narrow open top, 3 feet square, to let off the steam from the drying hops, and this open top has a cowl to keep out rain. The fire is on the bottom floor and is in a grate like a furnace. The drying floor is 15 feet above, sufficiently strong, with joists to support the weight of the hops. Over this is a latticed floor, with net work to let the heat pass in curing the hops.

The drier, as the man is termed who receives the hops and spreads them on the drying floor, and after that is full, he proceed to make a fire which continues till the whole is entirely done. The time of drying one kiln requires about ten hours, and in that time, the hops are turned over two or three times. Fires are made of charcoal and anthracite coal, causing as little smoke as possible; a little brimstone is used and put in the centre of the fire, this gives the hops a bright amber color tint so much approved. If the crop is large, more kilns are wanted as to quantity produced. Much depends on the experience of the drier in the price obtained. A whole crop can be easily lost by inattention. After they are cured, packed in bundles or packets of one cwt., they are kept in a dry place for sale. The price varies according to quality.

In some instances the yield has been on an average of nearly 2,000 pounds per acre, which will sell at from 30 to 40 cents per pound, requiring very little labor except the picking. To save labor the poles should be cut with prongs from the middle up, by this method the vines would rest and not fall down as on a smooth pole, and less liable to be disturbed with the wind. At the price alluded to, hops would naturally pay better than corn or some other crops, and needs only a trial of some of our enterprising Maryland farmers to establish without doubt the success of this crop in our

State as a new era in agriculture.

Plants can easily be procured to plant any quantity of ground, and when once established, could supply themselves by procuring sets or from seed sowed in many rows to plant the following season.

I believe this crop, if properly managed, would pay a handsome profit. When once established it requires little cultivation, and every year increasing in value; if to each hill a little manure be added they last for many years and seldom have to be renewed, which is easily done by fresh plants at hand. Hence the farmers of Maryland should, on a small scale, try and advance the interest of hop culture, which, I believe, in due time will recompense them for their labor, equal, if not more so, than some crops at the present time. JOHN FEAST.

L. B. CASE'S BOTANICAL INDEX.—An illustrated monthly magazine, Richmond, Indiana. Price, 50 cents per year. This is a neatly printed and judiciously edited horticultural magazine, well deserving a generous support. We give below an extract from an interesting article in its October number, concerning the mulberry, a delightful fruit which has been overlooked too much, owing, perhaps, to the fact that it is so common in this country. The Downing Mulberry we have cultivated in years past, and it was a source of pleasure and profit for three months every year. It proved hardy and bore annually great crops of delicious fruit. We are under obligations to Mr. Case for the electrotypess which illustrate the article.

MORUS, (MULBERRY) TOURNEFORT.

Among all the different varieties of delicious fruits under cultivation or brought from a foreign land, we uniformly miss that of the Mulberry, which is certainly one of the very best dessert fruits grown, and after once planting requires no further attention than to keep the worms from devouring its foliage. All the varieties form quite large and spreading trees, and occupy no more ground than many of the commonly considered ornamental trees often seen about a residence. They are all

natives of Asia (including Asiatic islands), and North America, none being yet found in Europe or Africa. There are not more than six or eight true species, according to some authors, but some species have a large number of varieties which others consider true species. The principles, according to Joseph Paxton, are *Morus Alba*, from China, with 11 varieties, which are characterized by heart-shaped leaves with oblique bases, ovate or lobed, unequally serrate, smoothish; grows 15 to 20 feet high. *M. Nigra*, from Persia, with one variety, leaves heart-shaped, ovate, or sub-5-lobed, unequally toothed, scabrous; grows 20 or 30 feet high. *M. Rubra*, of North America, leaves cordate, often 5-lobed, equally serrate, scabrous, pubescent beneath; grows from 40 to 70 feet high. To these may be added a few more almost unknown species, which, however, are valued more as a rarity than for their fruit. They are *M. Calcar-galli*, from Australia; *M. Indica*, from East India; *M. Tartarica*, from Tartary; *M. Mauritiana*, from the South Pacific, and *M. Constantinopolitana*, from Turkey. They all form trees from 12 to 20 feet high, and are quite ornamental, but in our climate would require protection during winter. *M. Alba*, is also considered a much more tender species than the black or red ones, but will stand our ordinary winters very well. *M. Nigra*, the black mulberry, was introduced into Europe over 700 years ago and cultivated for its fruit, while the white mulberry was introduced for furnishing a food (with its leaves) for the silk-worm, over 500 years ago. Both these species, and many of their varieties, are introduced quite sparingly, however, into cultivation in America, and served as the foundation for our improved varieties, such as Tom Paine, Thompson and English Black from *Morus nigra* stock, while the celebrated Downing's everbearing (Fig. 217), was raised from seed of the *M. Alba* variety *multicaulis*. This is the only worthy fruit so far

as we can learn from *M. Alba*; but as the fruit is so long in season it is good enough. The variety of sub-species, *M. multicaulis*, is in general similar to the *M. Alba*, but seldom grows more than from 12 to 15 feet high and has enormous leaves, often from 11 to 14 inches long. The older settled



Fig. 216. *M. Rubra*, natural size.

portions of our country, viz:—New England, New York, etc., are plentifully supplied in many a fence corner with bushes of the white mulberry that was cultivated years ago for their leaves to feed the silkworm with, and now since "their occupation is gone" they are a

great pest. But as we wish to write of the American varieties particularly, we must dismiss the foreign ones for the present.

Morus rubra Linnæus is the common American form but is never a common tree; in fact they are more rarely seen than the introduced varieties.

Although the red mulberry is perhaps never grown for its fruit, it is nevertheless a good fruit, of a dark red color, turning purple, very sweet, in form cylindrical or like a large blackberry, ripening all summer from July. Dr. Darlington, who was one of the best observers America ever produced, says of it in his Flora Cestrica, "fruit preferred to that of any other variety known here." They usually form low, spreading trees in rich woods or near the banks of streams of water from Florida to about latitude 42° north.

We clip from the *College Quarterly*, Ames, Iowa, of September, 1880, a short article which reads: "Of the varieties we have tried, the Downing has proven the hardiest and most fruitful. We have found no difficulty in growing the fruit except that the birds take them as fast as fully matured. But this difficulty can be obviated by planting a whole row of them on the sheltered side of an orchard or timber belt. The Downing is derived from *Multicaulis* species and propagates readily from cuttings put out in autumn as soon as the leaves mature. We have also grown them by grafting on our native red species, and by grafting in the crowns of small-sized osage orange plants." But perhaps the best direction for propagating is to be found in *Berry's Fruit Garden*, which is as follows: "Can be propagated from cutters and layers, and by grafting and inarching. We usually graft on roots of the white Mulberry, in the house, as we do grapes—put them in pots or boxes and keep them under glass until they have taken well and made a few inches of growth, when they are planted out in the open ground."

The Mulberry, containing such a large quantity of *Caoutchouc* (Indian Rubber), makes it the special favorite for the caterpillar, of many varieties, and it often requires much attention to preserve their foliage which must be attended to promptly or the tree will soon be denuded of leaves, and as a necessary result the fruit will drop off. This is

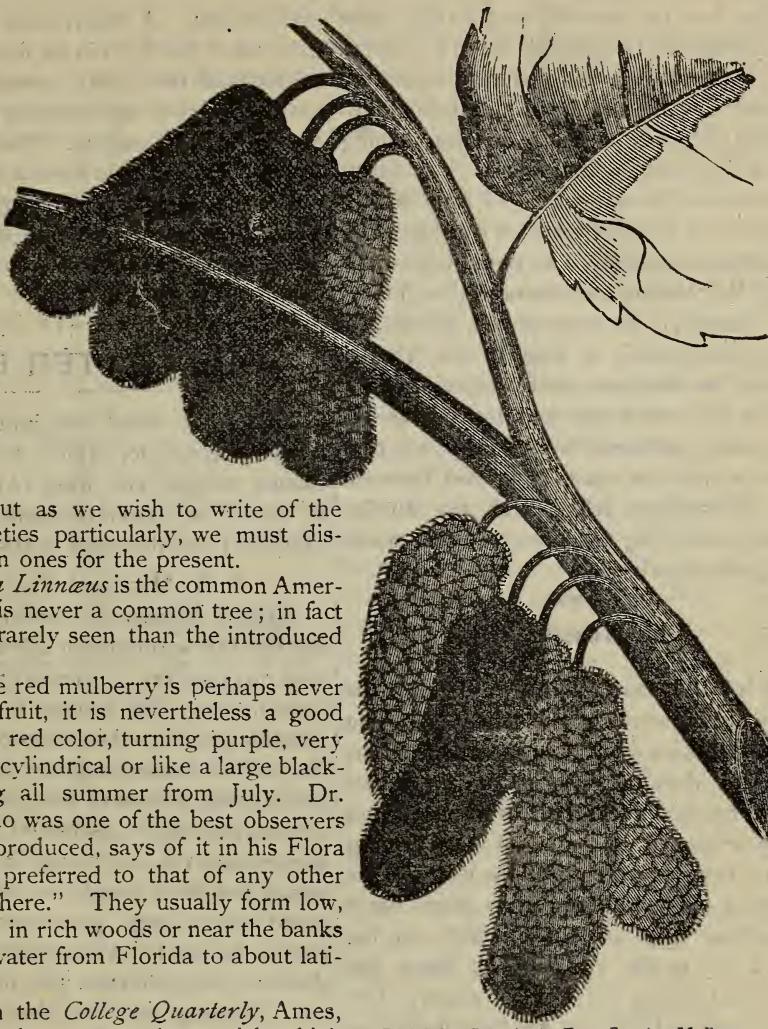


FIG. 21. Downing's Ever Bearing Mulberry.

all the care the trees will require after once becoming firmly established. The uses to which the fruit is adapted in addition to dessert or table use, is for all kinds of domestic purposes, such as pies, tarts, canning for winter use, preserves, etc. "In many portions of Europe a kind of wine is also made from the fruit which is considered an excellent beverage. The pure juice is also used for coloring and flavoring."—(Treasury Botany.) In early times, before the great abundance of fruit in the United States, the fruit was most eagerly sought for by all, both whites and Indians, and in the newer portion of our country, *i. e.* that portion which is sparsely settled between the Mississippi River and the Rocky Mountains, long journeys are still made for gathering the fruit.

The Hessian Fly.

It is well known that the fly deposits the eggs on the leaves of the wheat, and that its work ceases after some frosts come. The fly which does the mischief in the Spring is not hatched in the Fall, or at least is not fully developed. It comes out in the Spring lays a new crop of eggs on the leaves of the growing plant, and the insects which hatch from these eggs are those which do the real injury to the wheat. The larvæ are quiescent during the rigors of winter. For five months of the year the fly is in the flax seed state, within a brown case. This puparium state is during the cold months, and is passed just beneath the surface of the ground. Spring is the chief working period of the fly, unquestionably. The season favors their depredations and their wants more imperatively demand lively action. The Hessian fly is a feeble insect when it comes into life, and a little frost will destroy it. This often happens, both in spring and fall, about the time the insect is transformed into the fly, which seems the only cause for escape of the wheat plant from universal attack, both in spring

and autumn. A sharp frost at the right time, when the fly is in its feeble state, will so decimate them that several years will pass before they again appear in such numbers as to be damaging. The only aid the wheat plant can have when attacked by the fly is a strong and vigorous growth, which will enable it to overcome the enemy by throwing out new tillers as the old stock is destroyed.—*Am. Miller.*

OUR LETTER BOX.

Among the many complimentary letters lately received, for which we tender our thanks, we give two from old subscribers in widely separated sections, one from Maryland and the other in Mississippi:

T. B., Maryland, Dec. 8th, 1880.

Editors Maryland Farmer:—In sending you my subscription allow me to extend to you my earnest congratulations upon the very able manner in which your valuable periodical has been conducted, in the useful information given to agriculturists in every section of the country. Had farmers availed themselves of your timely suggestions the cold snap in November would not have caught so many unprepared with a large portion of their corn crop in the field and no provision made to shelter their cattle from the frosts of winter. Wishing you "A Merry Christmas and A Happy New Year," with many returns of the same, I am,

Very respectfully yours, WM. H. G.

OCEAN SPRINGS, Miss., Dec. 12, 1880.

* * * * * I wish the old MARYLAND FARMER great and increasing success; long may you live, my friends, to bless and help the farming interests of the dear old State.

Your friend, WM. R. S.

The following note is from our venerable subscriber and correspondent, who is a distinguished scientist, engineer and naturalist:

HOW TO GET RID OF HEN HAWKS & OWLS.

Some years ago I read that in California poles were put up and steel traps placed upon them to catch these marauders.

Finding my fish ponds molested by predatory birds I adopted the California idea, planting four posts of just sufficient height to place a steel trap on them without the use of a ladder. The result was entirely satisfactory; very soon I caught a dozen or more herons, half as many king fisher, and late in the season four hen hawks and three owls. The traps should be set to spring on the slightest touch. Two or more traps set on poles in the vicinity of the hen-yard on a large majority of our farms would soon make the hawk a *rara avis*.

D. A.

Ammendale, Md., Dec. 15, '80.

THE POULTRY HOUSE.

Milk for Fattening Fowls.

What a different taste a fine, nicely and quickly-fatted fowl has, when served on the table, compared with one which has been forced to scratch for all its living, and then be consigned to the spit in any thing but a fit condition for food. Farmers realize the importance of fattening quickly, when feeding beeves for the butcher, yet many do not seem to realize the fact that what holds with that kind of meat is equally true when applied to fowls. Tenderness and juiciness are results of fattening quickly, while mere ordinary flavor and want of tenderness result from letting fowls run until wanted for use on the table.

To enable one to fatten fowls or chicks quickly, it is absolutely necessary to give such food as will accomplish the purpose best, and to this end, we unhesitatingly recommend plenty of milk, in any state, from fresh to thick. This should be fed in connection with a grain diet, for one counteracts any possible deleterious influences of the other. If kept in a darkened

place and fed unsparingly on milk, with grain food in the proper proportions, you will soon have something very choice to set upon your tables to your friends, as well as to your family. When milk is fed, no water is required for fattening fowls.—*Poultry Yard.*

ROUP.—Roup is caused by dampness. The symptoms are, running from the nose, very foul breath, comb dark, and drooping manner, with refusal of food. Take the sick fowl at once from the others, and place it in a warm (stove, if necessary), *dry* place, and give it a teaspoonful of a solution of chlorate of potash, which is prepared by dissolving a teaspoonful of chlorate of potash in a glass of water. Give three times daily, and pour a little in the trough where the other fowls drink. It is one of the best remedies known, cheap, a *sure cure* if used on first appearance of the disease.—*Rural Guide.*

To utilize the feathers of ducks, chickens and turkeys, generally thrown aside as refuse, trim the plume from the stump, inclose them in a tight bag, rub the whole as if washing clothes, and you will secure a perfectly uniform and light down, excellent for quilting coverlets and not a few other purposes.—*Poultry World.*

THE application of sulphur sprinkled upon fowls, while roosting or otherwise, with a pepper box, will destroy vermin. Coal oil applied to their roosts in small quantities will also kill parasites. Two or three drops of whale oil, dropped occasionally on the back of a hen, or any other bird will kill lice.

As a rule the size of the seed will indicate the depth to plant, starting with the smallest at one-half of an inch, such as celery, parsnips, etc., while peas and beans may be put one and a half inches in depth,

MARYLAND FARMER,

A STANDARD MAGAZINE.

DEVOTED TO

Agriculture, Horticulture & Rural Economy.

EZRA WHITMAN, Editor,

COL. W. W. W. BOWIE, Associate Editor.

141 West Pratt Street

BALTIMORE.

BALTIMORE, JANUARY, 1, 1881.

TERMS OF SUBSCRIPTION

One dollar per annum, in advance.

TERMS OF ADVERTISING

	1 Mo.	3 Mo.	6 Mo.	1 Year.
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Advertisements to secure insertion in the ensuing month should be sent in by the 20th of the month.

TO ADVERTISERS!

The large circulation of the Maryland Farmer makes it one of the best mediums for advertisers of all classes. Its circulation will be largely increased by our reduction in the Subscription Price, and hence add to its advantages as a medium for advertisers. The terms of advertising will remain as heretofore.

The Maryland Farmer will be read this year by more Farmers, Planters, Merchants, Mechanics and others interested in Agriculture, than any other magazine which circulates in the Middle or Southern States, and therefore is the best medium for advertisers who desire to extend their sales in this territory.

We call attention to our Reduction in Price of Subscription.

TERMS.

One Copy, one year in advance.	\$ 1.00
Club Rates, 5 copies one year in advance	4.00
" " 10 "	7.50
" " 20 "	14.00
" " 50 "	34.50
" " 100 "	60.00

Subscription Price for One Year, if not paid in advance, will be at the old rate, \$1.50 per year, and positively no deduction.

SPECIAL PREMIUMS

For those who may canvass for New Subscribers.

Any person who sends us 100 Subscribers, at \$1.00, will receive the world-renowned Howe Sewing Machine, with all the latest improvements. Value, \$50.00.

Any person who sends us 80 Subscribers, at \$1.00 each, will receive 1 Young America Corn and Cob Mill, worth \$40.00.

Any person who sends us 50 Subscribers, at \$1.00 each, will receive 1 of the celebrated Wheat Fans, which has taken nearly 20 premiums. Value, \$28.00.

Any person who sends us 25 Subscribers, at \$1.00 each, will receive a Roland Plow. Value, \$12.00.

Any person who sends us 15 Subscribers, at \$1.00 each, will receive a Farm Bell. Value, \$6.00.

Any person who sends us 6 Subscribers, at \$1.00 each, will receive a Nickel-Plated Revolver, Long Fluted Cylinder. Value \$2.50.

THESE ARTICLES WE WARRANT TO BE FIRST CLASS.

It will not be necessary to secure the subscribers all at one time. For instance, if any one wants the Mill we offer for 80 new subscribers, he can send the names in any number he chooses, and we will allow him a whole year to finish the club.

COL. D. S. CURTIS, of Washington, D. C., is authorized to act as Correspondent and Agent to receive subscriptions and advertisements for the MARYLAND FARMER, in the District of Columbia Maryland and Virginia.

Our friends can do us a good turn by mentioning the MARYLAND FARMER to their neighbors, and suggesting to them to subscribe for it.

SPECIAL PREMIUMS OFFERED BY THE MARYLAND FARMER FOR 1881.

To every new subscriber who pays \$1.00 in advance we offer 25 cents' worth of Vick's celebrated Flower Seeds; or, at his option, Kendall's Book on the Horse, price 25 cents. This offer is extended to every person who pays up before 1st day of February his arrears and renews his subscription.

We have heretofore labored for the good of the great cause, and feel satisfied that we have evinced not only our zeal, but have largely contributed to the advance of Agriculture in this and other States of the Union. With these facts—a large corps of practical and able writers, a neat dress, the low price of the journal and a mass of valuable original matter each month, we confidently look to the farmers of the country to swell our already large list of subscribers to an extent equalling that of any of the best daily political papers in the State. With a little effort on the part of a few zealous friends in each neighborhood this can be done, and we call on our friends to make this effort that their interest as well as ours may be served at the same time. The more we are aided the more we will be able to do, and cheerfully will do, for the general good of all engaged in Agriculture and its kindred pursuits.

Our advertising columns speak for themselves and show how greatly the MARYLAND FARMER is esteemed as an advertising medium by mechanics and merchants. Fortunes have been, and are daily, made by advertising. Let then *our farmers* advertise more, which would increase the circulation of our journal in and out of the State, and bring to them customers in whom they would find their gains, by the help they had extended, by their advertisements, to their special paper, THE MARYLAND FARMER.

An Apology.—Owing to the many late improvements in our publishing arrangements, we have been compelled to delay the issue of the FARMER for this month. We have enlarged and improved our office, where a welcome awaits our friends, patrons and farmers. We would be pleased to have all agriculturalists who may visit the city make the office of the MARYLAND FARMER their place of resort to make new acquaintances and to interchange views with one another.

THE "MARYLAND FARMER" PRINTING OFFICE.

The Printing Office has been renovated, and now entirely under our own control, so that, with new Type, good Presses, and experienced Printers, we are prepared to do Job Printing of all kinds, especially Agricultural Work, at the shortest notice, in the best style, and at the lowest cash prices. To those who want Printing in that line, we would say, that we have a great number of Agricultural Cuts, and are better prepared to do this kind of work than any other office in the city.

We shall send specimen numbers of the MARYLAND FARMER for December and January to such persons as we think likely may subscribe for the year 1881, and hope, that after they have carefully perused the contents they will hand it over to their neighbors, and induce them also to subscribe. No farmer can more profitably spend a dollar than by subscribing to this journal for one year, during which time, each month's number will be worth in practical information more than the whole year's subscription. We earnestly hope each of our old subscribers will do us the favor to canvass for us and send, at least, one name in addition to their own when they renew their subscription for 1881.

The Maryland State Fair for 1881.

To have a State Agricultural Society which would reflect the highest honor upon the agriculture of the State, and which would command the attention of the whole country, seemed to be the aim of those who first inaugurated such an institution in Maryland, and they were among the first in this great Union of States to make the effort. Alas! nearly all of those noble men who were the progenitors of this great scheme to advance agriculture when it was in its infancy so far as science was concerned have paid their last tribute to useful lives.

The merchants and mechanics and every class joined heartily in the efforts to aid that vocation which furnished the staff of life and the real sustenance of every industrial pursuit. Funds were liberally provided, and Maryland took a proud position in the inauguration of State Agricultural Societies. Since then other States have followed the example, and while Maryland from various causes has permitted her society to languish, they have flourished, and in many the State Society of Agriculture is an institution of State pride, in which the people hold a heartfelt interest. We rejoice to hear from the president, Hon. John Merryman, that there are prospects, resting upon reliable basis, of a new life being infused into the State of Maryland Agricultural and Mechanical Association, which will develop into a splendid exhibition the present year on the Pimlico Grounds belonging to the society. These beautiful grounds, so well arranged for an exhibition, have heretofore—owing to the want of proper facilities to enable persons to easily reach there—been practically denied to the great majority of our citizens. This difficulty will be overcome the present year by a railroad directly into the grounds.

It has been determined by the Maryland Agricultural and Mechanical Association

to hold an exhibition this year, beginning on the 26th of October.

At a meeting held last month at the rooms of the society in this city, it was ascertained that the society was now free of debt and able to subscribe \$3,200 to the stock of the Arlington and Pimlico Railroad Company which has been lately chartered and all the arrangements completed to have the road in running order before the spring meeting of the Maryland Jockey Club at Pimlico in May next. Messrs. Merryman, Maynard and Brown were authorized to meet the corporators of the said road and subscribe in the name of the society to the capital stock of said company. This duty has been performed by the committee, and the Hon. John Merryman was elected president of the company by the stockholders. With this perfect harmony and united determination on the part of the popular Jockey Club, the Agricultural Society, and the Pimlico Railroad Company, there is every reason to expect in the future, brilliant success for all three of these enterprises.

A committee has already been appointed to prepare an extensive and liberal premium list for the October fair. The executive committee declare their intention to offer extraordinary inducements to citizens of the United States and Canada to participate in the exhibition, and directed the committee to provide, in addition to premiums heretofore by the association, prizes for cotton, in bales, specimens of ores and metals, and for new implements and machines specially designed to advance these interests. The tobacco interest will also command high premiums for the best samples and methods of culture and process of curing, &c.

The poultry department and bench-show of, and trials of shepherd dogs will be made features so attractive as to command the attention of the large class of poultry fanciers and sportsmen and sheep growers in the United States.

With the present bright prospects, and the exercise of a well directed energy in enlisting the sympathies and generous aid of all classes of peoples and industries in Baltimore, and in this State and sister States, Pimlico will present in 1881 the grandest and most complete and successful agricultural fair ever held in America. So may it prove, and thus fulfill the intentions of those who first originated the scheme of making the Maryland State fairs the first in importance of any in the Union. The merchant and manufacturer, the mechanic and artizan, the florist and gardener, of Baltimore, and her men of wealth and enterprise, must all unite and make this exhibition a credit to the city and a great tributary to her prosperity. The farmer and planter in Maryland, and in other States will also feel that their productions will be enhanced in value by a display of their best samples of crops at a fair of such magnitude. We trust it will be commensurate with the growing prosperity of our State, and creditable to the increasing wealth and greatness of her emporium with a population of three hundred and fifty thousand. Our feelings are so heartily enlisted in this effort to place the State Agricultural Society upon a commanding pinnacle, that we shall advert again to this subject, perhaps more than once during the year.

The Maryland Inspection.

The following letter will no doubt be read with interest by the planters of our State and given that attention it deserves. The case submitted to the Court of Appeals will determine a matter which has been a subject of disputation upon the question of compulsory inspection of tobacco in this State. It is the only product of the soil which arbitrary law requires to be inspected before it leaves the State. This State inspection was intended to benefit the tobacco growing counties of the State, but

so far they have received no benefit, and on the contrary individual planters have suffered materially, while other interests in the State have had to pay a portion of the excess of expenses of the warehouses over their receipts. They have not been self-sustaining of late years, but have been a burthen on the State finances. The complaints abroad have become so clamorous as to improper inspection, until Maryland tobacco has greatly deteriorated in market value abroad.

"DEPARTMENT OF STATE,
WASHINGTON, Nov. 27, 1880. }
"His Excellency W. T. Hamilton,

"Governor of the State Maryland."

"Sir—I beg to transmit for your Excellency's information, some statements made in a recent dispatch received at this department from the Consul of the United States at Bremen.

"Referring to the State inspection of tobacco in the State of Maryland, the Consul says the impression in commercial circles in Bremen appears to be that this inspection is, to say the least, very imperfectly performed. The samples drawn by the inspectors, it is said, are nearly always superior to the contents of the hogsheads, when, on being sold in Bremen, they are properly sampled by disinterested experts. It is added that there is no recourse possible at that stage of the transaction. In all other transactions—those of New York, Lynchburg, Clarkville, Paducah, New Orleans, etc., upon a return of such samples, with proper proofs of a substantial difference, the seller is compelled to refund the difference in value, such difference being determined by experts at the place of original sale or inspection; but in the case of the warehouse inspection of the State of Maryland, a return of the samples drawn in Bremen from the same hogsheads, showing, with proper proofs, whatever their inferiority may be, brings not only no redress, but no notice of the complaint. The Consul further

states that specific memorials in several cases have met with no reply. These complaints of Maryland State inspection are not confined to one or two firms, but are general in Bremen—so general, that it is exceedingly difficult to make sales of the tobacco at all. The foreign seller must allow claims properly made upon him, and, therefore, frequently instead of an apparent small profit there is an actual large loss.

"This state of things is held to be detrimental to the best interests of tobacco growers in Maryland, and I have, therefore, thought proper to transmit to your Excellency these statements of the Consul, that you may verify them, and make such use of them as you may consider to the advantage of the commerce and agriculture of your State.

"I have the honor to be your Excellency's obedient servant,

WM. M. EVARTS."

Delegates to the United States Agricultural Society.

The following is a list of delegates appointed by the President of the Maryland State Agricultural and Mechanical Association to attend the twenty-ninth annual meeting of the United States Agricultural Society, to be held in the city of Washington, January 12th, 1881:

Hon. Wm. T. Hamilton,
Hon. Lloyd Lowndes, Jr.,
George W. Harris, Esq.,
Dr. Fairfax Schley,
A. Bowie Davis, Esq.,
Capt. Wm. H. Parker,
John H. Mitchell, Esq.,
Hon. Eli J. Henkel,
E. Whitman, Esq.,
George H. Merryman, Esq.,
Col. J. Carroll Walsh,
John Moores, Esq.,
Adam R. Magraw, Esq.,
George Spencer, Esq.,
Col. F. Carroll Goldsborough,
Col. Lemuel Showell.

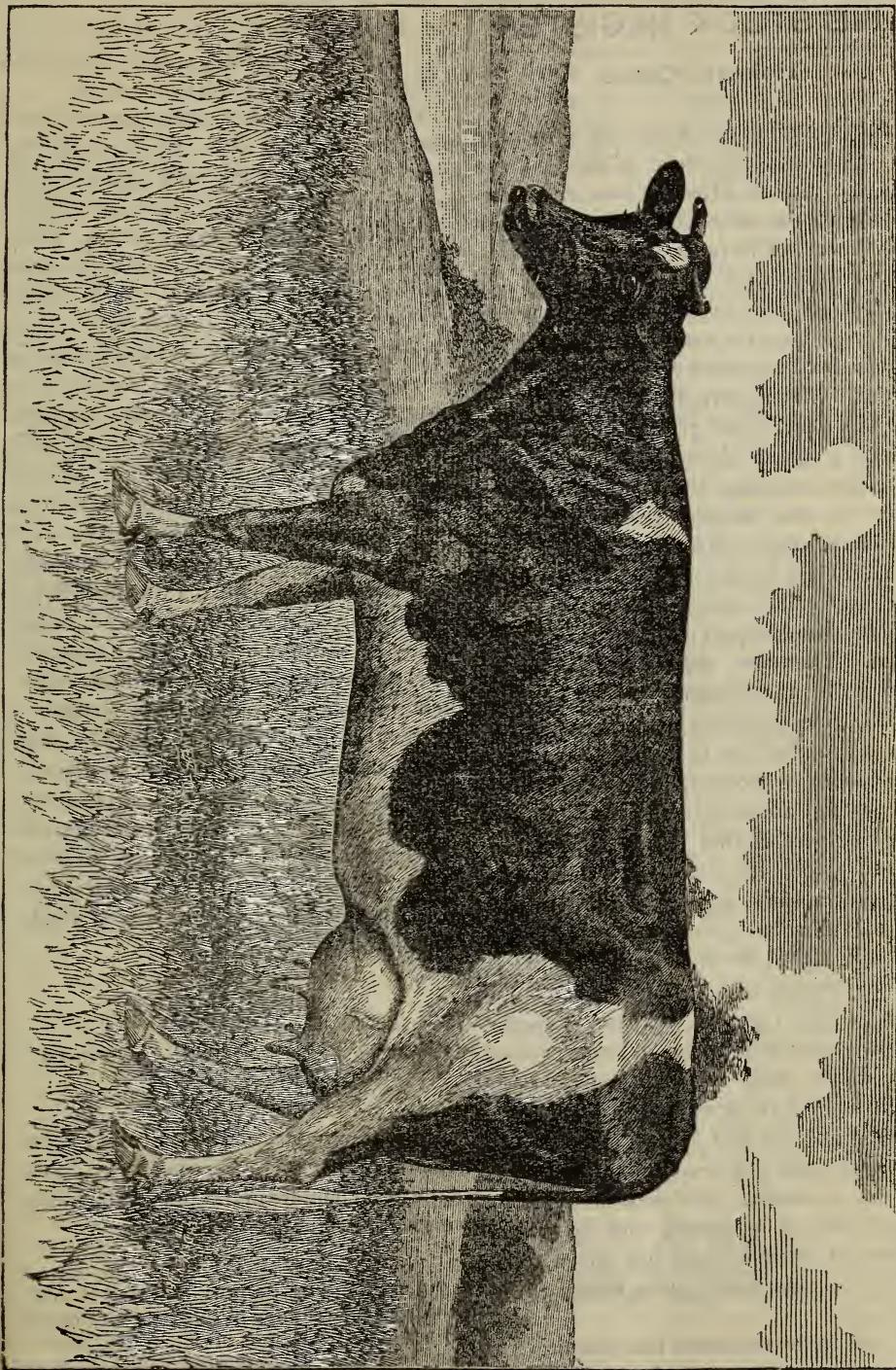
Journalistic.

THE GOLDEN RULE, Boston. Price, \$2.00 per year. This is a weekly, independent, religious paper, well printed and judiciously edited.

THE ILLUSTRATED BOOK OF THE DOG, Part XVII, has come to hand, and is fully equal to the preceding numbers in value and beauty. This number has a colored plate of two Skye Terriers and several wood cuts, all drawn from life. Published by Cassell, Petter, Galpin & Co., Broadway, New York.

VICK'S FLORAL GUIDE FOR 1881, exceeds in beauty, style and taste any similar book published in this or any other country. Ten cents sent to James Vick, Rochester, N. Y., will procure this beautiful book of 120 pages, containing one splendid colored flower plate—a life-like picture of Vick himself—and 600 illustrations, with descriptions of the best flowers and vegetables and directions for growing. It will grace any centre table or library. The person who orders seed after buying the book may deduct the ten cents. There no no seedsman in the world more reliable than the venerable Vick.

OYSTERS.—The enterprising Wagner Bros., of the famous "Green House Restaurant," of this city, presented us lately with a few shells of the largest oysters we have ever seen, and we shall hand them over to some public museum as they are really curiosities. They came from Mob Jack Bay. These gentlemen have had lately some of those delectable "Blue Pointers," so much sought after by the epicures in shell-fish. This species of the oyster is small, fat, and of wonderful fine flavor. There is a great variety in these bivalves, and they are as distinguishable as are the kinds of domestic animal meats, such as beef, mutton or pork. The oyster trade of the Chesapeake and its tributaries has become immense, and if properly farmed by our State would be a source of great revenue, enough to pay most liberal annual expenses, of the government of the State.



HOLSTEIN COW, "ÆGIS." PROPERTY OF SMITH & POWELL, SYRACUSE, N. Y.
Record this season, 82 $\frac{1}{2}$ lbs. in a day; 2,289 $\frac{1}{2}$ lbs. in a month; 15,070 lbs. in nine and a half months.

LIVE STOCK REGISTER.**Holstein Cattle.**

The beautiful cut which we present to our readers in this issue of the FARMER is of the famous Holstein cow, *Ægis*, belonging to the herd of the Messrs. Smith and Powell, of Syracuse, New York, who are, we believe, the largest importers and breeders of Holstein cattle in America. They now have on hand about 150 head of pure-bred recorded animals, mostly imported. They imported last year 110 head, and this year about 70. One of the firm spends a good share of each summer in Holland selecting the finest specimens, and from the deepest milking families. They have a rule, that they will not import an animal unless its dam is a very deep milker, and as a result of such selection, they claim to have the deepest milking herd in the world. The cow, *Ægis*, whose cut we present, is now making her six year old record. She has given this season $82\frac{1}{2}$ lbs. in a day, $2,289\frac{1}{2}$ lbs. in a month, and up to date (about $9\frac{1}{2}$ months) $15,070$ lbs., and is still giving about 1,000 lbs. per month. The prospect is that she will closely approach 17,000 lbs. this year. Their cow, *Auggie*, of same age, is a still deeper milker. She has given this year $84\frac{1}{2}$ lbs. in a day, $2,362\frac{1}{2}$ lbs. in a month, and in less than $8\frac{1}{2}$ months over 14,200 lbs., and is still giving nearly 1,400 lbs. per month, so that she will probably make a larger record than *Ægis*. Their two year heifer, "Lady of the Lake," dropped her calf at about 22 months old, and before she was two years old gave $45\frac{1}{2}$ lbs., in a day and $1,284$ lbs. in a month. She has since given $1,344\frac{1}{2}$ lbs. in a month, and up to date (about $9\frac{1}{2}$ months) she has given about 10,400 lbs., and is still giving nearly 30 lbs. per day.

It will be remembered that this firm are the owners of the famous heifer, "Netherlands Queen," that made last year much

the largest two year old record ever known, viz: $58\frac{1}{2}$ lbs. in one day, $1,670\frac{1}{2}$ lbs. in one month, and $13,574\frac{1}{2}$ lbs. in one year.

These gentleman write us that they expect their mature cows will average this year over 13,000 lbs., and their two year heifers about 9,000 lbs. They promise us at the close of the year exact figures. They keep an exact record of their entire herd by weighing each milking. At the head of their herd stands the noted bull "Uncle Tom," which has never yet been beaten in the show ring. He has been awarded the first prize at the New York State fair three years in succession. *Ægis* has also been awarded the first prize at the same fair, and both were in their herd which was awarded the gold medal in '79. Their seven year cow, *Isis*, after milking heavily for eight months recently weighed 1,850 lbs. Some of their calves at seven months old, raised mostly on skirmmed milk, weigh over 700 lbs. As will be seen by their advertisement in another column these gentlemen are very large breeders of Hambletonian horses and extensive importers and breeders of the famous Clydesdale draft horse of Scotland. They have recently made two importations of Clydesdale stallions. These horses are gaining remarkable popularity in this country, and are in ready demand.

Sheep Husbandry.**EXTRACTS FROM DR. J. B. KILLEBREW'S WORK.**

From the chapter entitled "Sheep Farms, General Management of Sheep, &c.," one of the best chapters in this practical treatise, we give the following extracts:

SHEEP FOLDS.

"A fold should be provided that is dog-proof. The country is often in an uproar from the depredations of one or two miserable curs in a single night. The farmer goes to bed proud of being possessed of a fine nucleus of a flock. He has carefully

selected choice breeds, and spent many anxious hours protecting and caring for them through the winter months, and it is his delight to exhibit them to his neighbors. But some morning the unwelcome word comes to him, "the dogs have been among the sheep." Every one who has experienced it knows of the volumes of rage that swell his bosom. But it is all for naught. The mischief is done and the robber gone. Not a trace is left, except the dead carcasses of many sheep lying around, and the frightened, stunned look of the more fortunate ones that have escaped—escaped the dogs it may be, but they have suffered so much by fear they do not recover for months. They run at the approach of any one, they are restless, and the constant snort of some watcher startles them from their food, and, as a consequence, they lose flesh and become a shadow of what they were before. Sheep are very peculiar in this respect, and nothing disturbs their equanimity more than the inroads of dogs. All this can be prevented by the simple precautions of a fold. It is easily made, and will last indefinitely.

"Select a suitable spot near the dwelling as may be. Let it slope so that it will not become muddy or sloppy. Let it be in size to suit the number of sheep intended to protect. An acre of ground will suffice amply for from one to five hundred sheep. Let it be enclosed by any means that will exclude a dog. One used for years by the writer was made of pickets, cut eight feet long and put two feet in the ground, well packing and stripping it on the inside. It is not necessary to sharpen the ends, as, if closely put together, it will never be passed by dogs. Have an entrance by a door, so that when shut the fold is closed. If pickets are not convenient, a plank fence will answer equally well, only it will require more constant care to keep it in repair. About 1,700 pickets are required to make a fold, worth, when of cedar \$3 per hundred. It will cost seven cents a yard to dig the trench and put them up. The strips, fours inches wide and one inches thick, will cost \$1.50 per hundred feet, and the nails will cost about two dollars more. So a good substantial fold made of cedar, which will last, with slight repairs, at least twenty-five years, will cost say \$75, which is a very small sum to pay for security and peaceful

nights. If one wishes to economise, he can either enclose his barn with such a fence, or some other of his outbuildings that require an enclosure, and thus save a double expense. Thus, while his neighbors are continually annoyed by dogs and sustaining heavy losses with destroyed or harrassed sheep, he can turn the key on his flock and quietly go to bed, satisfied his flock will be safely in the fold the next morning.

The fold should be also sheltered on the inner side, to allow the sheep to feed during the long nights and be protected from the rain, as well as have good dry hay to go to. The shelter should be not more than four feet high, and the length of two boards will be sufficient. Next the fence racks can be constructed in the following manner: A round pole from the woods or a heavy scantling is laid against the bottom of the pickets, and secured there by stubs driven the ground. Then bore one and a half inch holes in an oblique direction, so that slats or rounds driven in the holes will have a slant of about forty-five degrees from the fence. Then fit on the other ends of the rounds a companion scantling, about four feet from the ground pole. This scantling will then serve a support for the roof, letting one board extend from the scantling to the fence and another outwards, with the outer ends resting on a plate two inches square, which is itself supported by stakes, at intervals of six or seven feet, firmly driven into the ground. At intervals of eight or ten feet have some two or three boards nailed together, but movable, so they can be raised to put the hay in the rack. Then nail two planks, seven or eight inches wide, together by the edges so as to form a V-shaped trough, supporting or bracing it by nailing strips across at intervals of twelve inches, which will serve not only as a brace, but also prevent the sheep from throwing their food out. Nail this trough firmly to the ground pole of the rack, and there is a barn far better than the most expensive covering ever built by the amateur farmer. It protects them from rain and snow, and keeps their food dry and prevents it from becoming worthless from tramping and defiling. Should the flock become so large that all cannot eat at the same time, supplementary racks and shelters could be erected by building a fence or plank wall four feet high, and sheltering and racking both sides as their ne-

cessities may require.

Nor does the advantage of a fold stop with the security of the sheep. It is said the foot of a sheep is golden. During the day he distributes his rich manure over the pastures in an admirable manner, carrying it where most needed on the slopes and thin soils of the higher lands. By proper attention to raking and saving and sheltering, here can be gathered and garnered a rich store of plant food. And it is truly astonishing what a large amount of valuable manure can be collected in a short time. The litter, such as straw or leaves, that has been, or that should be, spread under all the sheds, will become saturated with the urine, and this, thrown on the general heap, generates an immense amount of ammonia, which, lodging in the mass of decaying vegetable matter makes a manure unexcelled by any. * * * * *

Sheep at the Fat-Stock Show of 1880.

Though good, the display of sheep at the late Fat-stock Show was far short of what is warranted by the magnitude of the interests of sheep husbandry, and the capacity of the men engaged therein. Few new names were to be found on the list of exhibitors, and no very marked difference was observable in the number and character of the animals shown. Such differences as existed were, however, in the right direction, *i. e.*, a reduction in the number of mediocre animals shown, and a higher standard in those brought before the public. In this far it may be considered such an improvement upon its predecessors as to warrant increased efforts on the part of both managers and exhibitors to supply through comparison and intelligent criticism a long-felt want among live-stock breeders.

The pens were mostly filled with Cotswolds and Southdowns (the latter predominating), and their grades. Both breeds presented some fine specimens, all showing careful handling and liberal feeding. In fact, some of the long wools were passed by the committees as being too fat for profitable dressing and cutting. Some interesting specimens were to be seen in the pens devoted to the grades and crosses, very nearly approaching the ideal standard of a profitable feeding sheep. These are the sheep upon which the average farmer

must depend for mutton production, as the demand for throughbred animals for breeding purposes will long keep the price of such above that warranted by any possible contingencies of the meat market. The grade sheep is the only one within reach of the majority of feeders which possesses to any considerable degree those characteristics of hardiness and rapidity of fattening for which the Cotswolds and the several Downs are so conspicuous. The results from using rams of Cotswolds, Southdowns, Shropshire Downs, and Oxfordshire Downs, as seen at the Fat-stock Show, were highly encouraging to the admirers of each of these popular varieties—emphasizing all that has been said by way of eulogy in their behalf.

SLAUGHTERED SHEEP AT THE FAT-STOCK SHOW.

Interest seemed to culminate in the slaughtering test, to which the champions of the several breeds confidently appealed for verification of all they had claimed for their favorites. None but wethers were slaughtered; and it is unfortunate that in the number were found none of the animals to which premiums had been awarded in their several rings. This crucial test showed the heaviest percentage of dressed carcass to gross weight was from the Cotswold; but when the experts came to pass upon "the sheep whose dressed carcass was of highest market value in proportion to live weight," as required by the rules of the State Board, the decision was in favor of the Southdown in both the yearling and two-year-old rings. As might reasonably be expected, this decision was not satisfactory to the champions of the long wools; and while they may not be altogether wrong in the abstract, a large proportion of the bystanders seemed disposed to accept the decision of the committee as correct. The wording of the rule operated disadvantageously to the Cotswolds. The proportionate value of the dressed carcass is not all that should be considered in a profitable slaughtering sheep. The value of the pelt and tallow, though secondary, is by no means an unimportant factor in the final estimate. In these items the showing was against the Southdowns, from which the merchantable offal was but little more than half the value of that from the Cotswold. It is to be hoped that the long-wool breeders will accept their discomfiture

in good part, and to future competitive tests in that spirit which knows neither faltering nor defeat. If the wording of the rules inadvertently militated against success this year—as seems to have been the case—let an improvement be secured before the next test is made. The management is honestly striving to do full justice to all breeds and varieties of live stock. It will be found easier to complain of the mistakes that have been made than to suggest anything definite in the direction of improvement.

The *Journal* does not hesitate to bespeak the hearty co-operation of the sheep breeders and feeders in future shows of meat-producing animals. The past record of the Board warrants this; and the proverbial pluck of the breeders, and the steadily-advancing merits of their animals, makes the prediction doubly safe.—*National Live-Stock Journal.*

Corn Meal and Clover Hay.

"Dairyman" says he has a herd of 20 cows, which will all come in November; and as he must reap his harvests in winter butter, he wants to know whether clover hay and corn meal will be a good combination of food for winter milk and butter, or how much meal?

Corn meal and good clover hay will be a proper combination of food to produce milk, for corn is rich in starch and oil, both good for butter; and clover hay is rich in caseine or cheese, so that they possess both the carbonaceous and nitrogenous elements in proper balance. But corn meal is a heating food and must be fed with good judgment. It must not be fed alone, but mixed with a portion of the clover hay. A portion of the clover hay should be cut into short lengths, and the meal should be mixed with twice its bulk of cut clover, the clover being moistened so that the meal will adhere to the hay, and both be eaten together. If the meal is fed with three times its bulk of cut clover, so much the better. The meal being mixed with hay, both will go into the stomach to-

gether, and the meal, instead of being massed in a lump, or bolus, will be distributed throughout the contents of the stomach, will be raised and remasticated, and thus not be likely to produce a feverish state of the system. Nicely cured early cut clover is a good single food for milk, and corn meal will add other qualities so as to give some variety; but these two foods may be improved by adding others so as to give more variety. If dairyman should grind half corn and half oats together, or even one bushel of oats with two bushels of corn, it would decidedly improve the ration. Oats are excellent for milk. It will also be an improvement to mix 50 lbs. of bran or wheat midlings with 100 lbs. of corn meal. It should always be borne in mind that the greater the variety in the food of the cow the better—better for the health of the cow and better for the flavor of the milk and butter.

If corn meal only is fed with the clover, then add six quarts of meal, fed in two feeds, or better in three feeds, with six or nine quarts of cut clover, at each feed. If bran be mixed, then 10 lbs. of the mixture per day; if oats and corn are ground together, eight lbs. will do. The cows should also have all the long hay they will eat. This ration, with good water, and a warm, well ventilated stable, will give a return, from good cows, in every way satisfactory.—*National Live-Stock Journal.*

WASHINGTON AGRICULTURAL SOCIETY.

—The annual statement of the Agricultural and Mechanical Association of Washington County shows receipts from the fair of 1880 to have been \$5,757.35; total expenses \$3,000; net profits \$2,757. During the year for the purchase of land, erection of buildings, construction of track, insurance, interest, &c., &c., \$14,350 have been expended. Over and above available assets there remains an indebtedness of \$2,600, which the managers believe can be entirely liquidated from the proceeds of the next fair, and the association will be the owners of the best improved fair grounds in the State.

THE DAIRY.

For the Maryland Farmer.

Winter Butter.

NUMBER TWO.

The extreme points of difference between the creamery butter and the dairy, or farm made, is in the uniformity of the former, for the great quantities of milk are subjected to unvarying conditions, and the temperature being maintained throughout at as near one point as possible, one package is therefore an exact counterpart of another, so that this uniformity of color and excellence gives a reliability, which the consumer becomes to understand; while the dairy butter, made by a variety of methods, with varying treatment, and with a total dissimilarity of conditions, must show as many grades and degrees of quality, as its makers are numerous, so that the consumer has nothing to warrant the article he purchases, having either in grade or quality, a uniformity.

That occasional makes of dairy butter equal, and even surpass the finest creamery, is only evidence that all dairymen can raise the standard of their butter, and that in no other way can they do this except that they copy in their methods, rules in general purport used by the creameries, and having adopted a plan, adhere to it, and so perfect themselves in the details, that success must come as a sequence.

To make a uniform quality of butter, the dairyman must adopt one or two of the methods of the day. The newly invented creameries, such as Cooleys, Moserlys, a Ferguson Bureau apparatus, or, on the other hand, if not now possessing one, must provide himself with a milk room that an unvarying temperature of 60° can be maintained, regardless to outside conditions of climate. If the item of expense, such as erecting a milk house, pans, cream tanks

and the like is considered, it will be found that it will be far cheapest to buy a patent apparatus, but always with this in view, that an unlimited supply of cold water, and easily conducted to the creameries, will have to be provided, or in lieu of it, a supply of ice, for with all of the Sweedish or deep setting plans, whether submerged or suspended, the principle of external cold to expel the interior heat of the milk is the same, and cannot be dispensed with, so that if these conditions cannot be met, the old time pan and shallow setting of the milk, will have to be resorted to, and a milk house or room which can furnish reasonable facilities for its needed purpose will have to be founded, or else failure in producing perfect butter will again be recorded.

There is a great deal of fine, and perhaps imaginative writing in regard to the susceptibility of milk and cream absorbing noxious odors, and transmitting them to butter, is undoubtedly true, but that milk does in a degree possess this function, is none the less a fact, and to it can be attributed much of the bad flavored butter, rather than in a lack of skill in its manufacture is also true, so that the milk room should be so situated as to have perfect ventilation, freedom from odors, a uniform temperature and with facilities at hand for the necessary work, is important.

Western Reserve, Ohio. JOHN GOULD.

H. STEWART writes to the *Country Gentlemen* regarding butter as follows: There is no doubt that sour cream will make better flavored and more solid butter, and more of it than sweet cream; the butter will keep longer in good condition. Sweet cream butter is excellent, and may be exquisite, if very well made, for immediate use, but it deteriorates very rapidly, while sour milk butter improves by keeping for several weeks, if well kept. But neither the milk nor the cream should be permitted to "clabber,"

Setting Milk for Cream.

The greatest mistakes in the dairy are made in setting the milk for cream. In the family dairy, where one cow supplies milk and butter, the arrangements are usually better than in some farm dairies. Here the arrangements are often surprisingly bad. I have seen the milk of four cows set in a sleeping room, and under the bed. The young woman who managed that dairy prided herself on her good butter. What she knew of bad butter must have been fearful to contemplate. In some farm-houses the milk is set in the living room, where the cooking and eating are done, and where in the evening, the farmer and the hired man smoke their pipes and dry their wet boots and socks under the stove. No wonder some persons prefer oleomargarine to butter made in that fashion. If these lines come under the notice of any one, man or woman, who keeps milk under such circumstances as these, or in any way approaching to them, I would say to him or her, that good butter cannot be made in that way, and the labor spent over it is only half or quarter paid for.

The first necessity in setting the milk is perfect purity of place and surroundings. Then there should be the following adjuncts:

A moderate circulation of fresh and moist air.

Shelves raised at least three feet from the ground.

A temperature not over 60° in summer, and not below forty-five in winter.

Perfectly clean utensils, and very little light.—*Henry Stewart.*

THE LANCASTER COUNTY POULTRY ASSOCIATION, will hold its second annual exhibition at Lancaster, Pennsylvania, on the 14th, and continue to the 19th, inclusive, this month. It bids fair to be the finest exhibition held for years past in the State. Our thanks are due to the secretary, Mr. J. B. Lichty, for a complimentary ticket.

LADIES' DEPARTMENT.

Chats with the Ladies for January.

BY PATUXENT PLANTER.

"Not yet!—how voices borne from hidden streams
Heard through the shivering woods, but now arise
Thee sweet sounds mingle not with daylight dreams;
They are of Vesper's hymns and harmonies;
Leave me not yet!"

My thoughts are like those gentle tones, dear love!
By day shut up in their own still recess;
They wait for dews on earth, for stars above,
Then to breathe out their voice of tenderness;
Leave me not yet!"

The old year has departed and a New Year been born. Christmas has come, and its joys and festivities are over. Although I myself was not overburthened by the reception of letters of kind remembrances and tokens of love or friendship, or lots of savory eatables, or "plentiful goodies," as the children say, yet, of the former, I had as many as perhaps I deserve, and of the latter I had enough, so that at home and at a neighbor's pleasant reception, I had an abundance, as my enforced habits of abstemiousness now always keep me blessed with the approving smiles of Temperance. So much for myself; let me hope that all my lady friends enjoyed to the utmost their Christmas day rationally. The holidays were marked by execrable weather and heavy snow storms, affording, however, delightful sleighing for the boys and girls.

The unusually deep snow—the merry sleigh-bells and the host of little folks sledging down the inclined planes, and hearing their merry laughter as now and then a turn over or collision of sleds occurred, carried me back to the good old times of fifty years ago when green Christmases were uncommon, and when there were none of the expensive toys or amusements of today, but when the Yule log burned in every wide and open fire-place in the wealthy planter's mansions and in the negro quarters; when the servants had their four days holiday, which they spent with bois-

terous glee in rabbit hunting, bird baiting by day and possum and coon hunting at night, winding up each day with merry-making and dancing at night until the early hours of the morning. Eh! those were happy days—fox hunting, sleighing, feasting and dancing, and fun and frolic everywhere; the huge egg-nog and apple toddy bowls, apple jack and cider in plenty, with none of the excesses which are brought about in these days of refined extravagance through the insidious drinks of high-priced wines, whisky punches, "Rock and Rye," "Tom and Jerry," &c., &c. It was a pleasant sight to see the crowds of negroes—old men and women, little children and all—on a large plantation at early dawn on Christmas morning going up to the "gret house," each bearing some humble offering to show their sincerity in wishing "old Marster and Missus a happy Christmas." These offerings were choice fruit, fresh or dried, and treasured for weeks before, or birds, rabbits, possums, coons, persimmon beer, &c., and then to hear the hearty responses of a fine old gentlemen and lady, who kindly received and returned good wishes and suitable presents to each one. This was truly an exemplification of peace on earth and good-will among men, in the true meaning of the angelic song. All unpleasantness of the past year was forgotten and forgiven and all was peace, and content and joy.

Methinks I see old Jim Tillard now with his load of presents, big apples, ground-nuts, and chestnuts for the children, a huge fat possum for master, and a neat cage with a dozen live partridges in it for mistress. In those days game was plenty, and negroes were allowed to trap them. Old Jim was a natural-born hunter, said to have had an Indian for his father, and he was in figure and face and hair like an Indian chief. I remember when a fine lithograph of the famous Florida war chief, Oceola, was brought home and exposed to view, every one, white and black, at once saw a won-

derful likeness to Jim, and some said that it was surely taken by the artist for him. He was quite a favorite in the neighborhood, was a good carpenter and ingenius. He made wooden locks of a curious device which could be opened by no key except the one made for it. He made bowls, trays, cedar buckets and pails, and beautiful, strong buckets of oak strips, dyed of different colors so as to be ornamental, and looked like a gay ribbon basket. In return for his offerings he went off loaded with gifts of clothing of real value and with a bottle of apple Jack, or pure old whiskey, and a rundlet of cider, holding two gallons, which last he seemed to prize more than all.—These little amenities made the bonds of friendship between master and slave stronger than adamant.

During the unpleasant week of storm and severe cold, a painful excuse for keeping in my chamber was furnished by a visitation of *gout*—fashionably termed the "aristocratic malady," but which, I think, is an invention of Satan, by which he delights in running red-hot needles through the ball of the big toe of *gentlemen* who have passed fifty years, more or less. In barbarous times, thumb screws and hot pinchers would not have been used as instruments of refined torture if Cruelty could have brought on this "*gentleman's complaint*" of modern times. This affliction must also serve as an excuse for my short and silly chat.

Like that peripatetic visitor of old, Mr. Paul Pry, "I have just dropped in—hope I don't intrude"—to wish each of you a HAPPY NEW REAR!

Farmers' Convention.

The annual meeting of farmers and friends of agriculture will be held at the Sandy Spring Lyceum, Montgomery County, Thursday, January 13th, at 10 o'clock. All interested are invited to attend. In addition to reports of committees, abstracts from the proceedings of the clubs, &c.,

there will be discussions on the following

QUESTIONS:

1. What is the least size of the farm on which it pays the manager better to superintend than to labor; and what constitutes a successful farmer?

2. Is a farmers' hotel and market in Washington a necessity?

3. If a young man is starting in life as a farmer, had he better go in debt for land at \$20 per acre, or more highly improved land at \$60 per acre, the buildings being equally good?

4. Under similar circumstances would it be better for him to rent or to buy?

5. Should we adopt the system of preserving green fodder, called *Ensilage*?

6. Would it be to the advantage of the farmers of Montgomery County to have a public weigher of grain in Georgetown?

7. If a farmer wishes to sell about 4,000 lbs. of pork per year, what is the best system as to age, weight, time of selling, &c.?

8. Are sheep profitable?

HENRY C. HALLOWELL, Pres't.

ALLAN FARQUHAR, Sec'y.

A Winter Song.

The winds are shaking through the trees,
The snow is falling fast,
The brooks upon the mountain side
No longer o'er the mosses glide:
The laughing rill upon the hill
Under a spotless robe is still;
The summer days have passed!

The frost has clad the naked bush!
The pine trees sigh and moan!
The winding road is lost in snow;
The birds of winter come and go,
The woods are dumb, the wild bee's hum
No more from blooming flowers will come
Till winter days have flown!

Sing out a ringing roundelay!
Be merry while ye may!
What tho' the winds are wild and cold—
What tho' the year is growing old!
If hearts are warm and love is strong,
The moaning wind is summer's song,
So love and laugh to-day!

—HENRY RIPLEY DORR: *Home Journal*.

SALE OF CHANNEL ISLAND CATTLE.—

The sale of the Kent importation of Channel Island cattle at Philadelphia, lately by Messrs. Herkness, attracted prominent breeders from all sections of the country, and large prices were realized. The cattle, embracing seventy head, were exceedingly fine. The largest for Guernsey was paid for Elegante, bought for Fernwood farm, Canovia, \$875. The largest figure brought for a Jersey was for Frolic, \$825, bought by Mr. S. M. Burnham, of Langutuck, Conn. The average for Guernsey cows was about \$340, for Jersey cows \$415. Twenty-four calves brought \$3,205. At this sale, Mr. T. E. Phillips, of Baltimore, made the following purchases: Cow, aged two years and three months, for \$510; six-months calf, \$170; three months calf, \$110, and another three-months calf, \$115. G. S. Watts, of Baltimore, purchased a cow, two years old, for \$310; a six-months calf for \$230, and a three-months calf for \$145. Fill-pail for \$180; Marie Second, \$500.

Domestic Recipes.

HOT SLAW.—Cut the cabbage fine and in long pieces, but do not chop it—use a sharp knife. Boil for thirty minutes in enough water to cover it over, season with one teaspoon of flour, stir in one teacup of strong vinegar, beat one egg and put in one large teaspoonful of sour cream, with pepper and salt. This is for two quarts of raw cut cabbage.

APPLE TRIFLE.—Peal, core and boil till tender a dozen tart apples, with the rind of a lemon grated; strain through a sieve, add sugar to taste and put into a deep fruit dish. Make a custard of a pint of cream and the yolks of two eggs, with a little sugar. When cold lay it over the apples with a spoon, and over the whole place whipped cream.

PARSNIP FRITTERS.—Scrape and cut into halves the parsnips; boil tender in hot, salted water; mash smooth, picking out the woody bits; add a beaten egg to every four parsnips, a teaspoonful of flour, pepper and salt at discretion, and enough milk to make into a thick batter; drop by the spoonful into hot lard and fry brown. Drain into a hot colander and dish.

REMOVING CANDLE GREASE.—The French, who use candles to a greater extent than any other nation, have a way of effacing candle grease which is worth knowing. Instead of applying a hot iron, they use a few drops of spirits of wine, rubbing the spot with the hand. The grease becomes powder and leaves no trace.

TO ACCOMMODATE THE PUBLIC.—The proprietors of that immensely popular remedy, Kidney-Wort, in recognition of the claims of the public which has so liberally patronized them, have prepared a liquid preparation of that remedy for the special accommodation of those who from any reason dislike to prepare it for themselves. It is very concentrated and, as the dose is small, it is more easily taken by many. It has the same effectual action in all diseases of the kidneys, liver or bowels.—*Home and Farm.*

J. J. DE BARRY & Co., 107 W. Lombard Street, claim to produce the most original designs, the best and most finely finished work, than any other house in this country. Their manner of producing the same being new, and used only in their shop, each letter having the edge beveled and smoothly finished, saving brushes and using less ink. They respectfully solicit a trial; sketches and designs will be furnished free on application, asking only the return of the design in case you do not favor them with an order. See their advertisement in this number.

ITS ACTION IS SURE AND SAFE.—The celebrated remedy Kidney-Wort can now be obtained in the usual dry vegetable form, or in liquid form. It is put in the latter way for the especial convenience of those who cannot readily prepare it. It will be found very concentrated and will act with equal efficiency in either case. Be sure and read the new advertisement for particulars.—*South and West.*

SPAVIN CURE.—Any person having a horse with spavin should procure Kendall's Spavin Cure.

Poultry Shows to Occur.

The Butler Co. (Penn.) Poultry Association, Butler. W. I. Meehan, Sec'y. Jan. 5-7, 1881.

Southern Mass. Poultry Association, New Bedford. Wm. Penn. Shepard, Sec'y. Fall River, Mass. Jan. 6-11, 1881.

Saginaw Valley Poultry Association, East Saginaw, Mich. C. T. Beatty, Secretary. Jan. 11-14, 1881.

Champlain Valley Poultry Association, Burlington, Vt. M. H. Stone, Sec'y. Jan. 11-14, 1881.

Central Mass. Poultry Association, Worcester. W. H. Fitton, Sec'y. Feb. 8-11, 1881.

Springville (N. Y.) Poultry Association. A. L. Twitchell, Sec'y. Jan. 12-14, 1881.

Cleveland Poultry, Pigeon and Pet Stock Association, Cleveland, Ohio. M. M. Sexton, Cor. Sec'y. Jan. 16 to Feb. 2, 1881.

Col. R. H. Dulany, of Loudon County, has been unanimously elected President of the Virginia State Agricultural Society.

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